

December 2017

SHIRE OF SERPENTINE -JARRAHDALÉ RURAL STRATEGY 2013 REVIEW



CONTENTS

1. INTRODUCTION	1	7. POPULATION PROJECTIONS AND HOUSING DEMAND	31
1.1 Background.....	2	7.1 Introduction.....	32
1.2 Extent of the Rural Strategy.....	2	7.2 Population projections.....	32
2. RURAL STRATEGY OBJECTIVES	4	7.3 Demand proportion for rural and urban land.....	32
2.1 Background.....	5	7.4 Demand analysis.....	32
2.2 Key themes.....	5	8. CHANGES SINCE THE PREVIOUS REVIEW	34
2.3 Universal Objectives.....	5	8.1 Market demand and economic assessment.....	35
3. SETTLEMENT PATTERN	7	8.2 Land use audit.....	40
3.1 Background.....	8	8.3 Tourism in the Shire.....	40
3.2 Exclusion areas.....	8	8.4 Consultation.....	41
3.3 Rural Settlements.....	8	9. EVALUATION OF POLICY AREAS AND OVERLAYS	49
4. POLICY AREAS	9	9.1 Policy Areas.....	50
4.1 Background.....	10	9.2 Policy Overlays.....	59
4.2 Town and Village Urban Policy Area.....	10	10. LAND CAPABILITY	62
4.3 Rural Living Policy Area.....	11	MAPPING REVIEW	
4.4 Farmlet Policy Area.....	12	10.1 Background.....	63
4.5 Rural Policy Area.....	13	10.2 Landscape systems and soil types.....	64
4.6 Agricultural Protection Policy Area.....	13	10.3 Capabilities for various uses.....	65
4.7 Conservation Policy Area.....	14	10.4 Land qualities.....	65
4.8 Residential and Stables.....	15	10.5 Water availability.....	66
4.9 Poultry Policy Overlay.....	15	APPENDIX A - BACKGROUND PLANS	67
4.10 Frameworks investigation areas.....	15		
5. IMPLEMENTATION	17		
5.1 Background.....	18		
5.2 Implications of review.....	18		
5.3 Review.....	18		
6. STATUTORY AND POLICY FRAMEWORK	19		
6.1 State Planning Strategy.....	20		
6.2 State Planning Policies.....	20		
6.3 Draft Outer Metropolitan Perth and Peel Sub-regional Strategy.....	23		
6.4 Western Australian State Sustainability Strategy.....	23		
6.5 Western Australian Planning Commission Development Control Policies.....	23		
6.6 Bush Forever.....	24		
6.7 Shire of Serpentine-Jarrahdale Town Planning Scheme No.2.....	24		
6.8 Shire of Serpentine-Jarrahdale Strategic Community Plan 2013 – 2022.....	25		
6.9 Local Biodiversity Strategy 2008.....	25		
6.10 Biodiversity Incentives Strategy Conservation on Private Property 2010.....	25		
6.11 Local Planning Policy.....	26		
6.12 EPA Guidance Statements.....	28		
6.13 Environmental Protection Policies.....	28		
6.14 Water Quality Protection Notes.....	29		
6.15 Jandakot Drainage and Water Management Plan 2009.....	29		
6.16 Agriculture Futures – Potential Rural Land Uses on the Palusplain.....	29		



Prepared for the Shire of Serpentine-Jarrahdale

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Document details

File: 906
 Revision: 4 incorporating WAPC modifications
 Date: December 2017
 Author: SR/MT
 Verified: MT
 Approved: MT
 Project Manager: PV/LD (SJ Shire)

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1. INTRODUCTION



1.1 BACKGROUND

The Rural Strategy (RS) has guided development in the Shire of Serpentine-Jarrahdale since 1994. This document presents the 2013 update to the RS, building on the existing provision and subsequent revisions thereto.

The RS contains objectives, an explanation of the Policy Areas and Overlays as well as a consolidated Strategy map. **The overall purpose of the Rural Strategy is to preserve and enhance the Shire's rural character and its role as an important economic contributor to the Shire and broader region.**

The Shire of Serpentine-Jarrahdale is situated approximately 45 km to the south-east of Perth. It is currently experiencing a high growth rate as people move to the area. In addition, there are major urban expansion projects within the Shire which are either underway or well advanced in planning. The Shire is cognisant of the need to balance urban and rural areas with a view to enhancing the rural areas of the Shire through maintenance of character and facilitating economic activity.

The original RS was prepared in 1994. There were some minor modifications to the Strategy made in 2003 and again in 2006, however the overall intent and structure of the Strategy has remained largely intact since 1994. This current document brings together the key elements of the original strategy, adding those modifications made in 2003 and 2006, as well as providing further modifications based on a review undertaken during 2011-2012.

1.2 EXTENT OF THE RURAL STRATEGY

The Study Area includes the entire extent of the Shire, however specifically excludes urban centres such as Mundijong and Byford and the proposed Oakford townsite. As such, the RS focuses on the rural areas predominantly, but also takes into account the interaction between existing and emerging urban areas within the Shire. It also excludes areas reserved as State Forest as these are managed by the Department of Environment and Conservation (DEC) and whose purposes are unlikely to change.

RELATIONSHIP TO OTHER STRATEGIES

Regulations introduced in 1999 require a new Local Planning Scheme to be based on a strategic direction established in a Local Planning Strategy. The Local Planning Strategy encompasses land uses across the entire Shire, including all urban and rural areas. The Rural Strategy will be a significant feed into the Shire's future Local Planning Strategy. In addition to the Rural Strategy review, the Shire is also preparing the following strategies:

- Activities Centre Strategy
- Urban Growth Strategy
- Transportation Strategy.

While the strategies remain separate, there are some overlaps between all three. Of particular relevance to the Rural Strategy will be recommendations on future urban growth nodes and areas identified in the Urban Growth Strategy.

The Rural Strategy will also provide one mechanism through which the Shire's Strategic Community Plan 2013 to 2022 can be implemented. The Strategic Community Plan aims to maintain the Shire's distinct rural character and contains objectives to guide the Shire in achieving this vision. This is the focus for the Rural Strategy review.



Part A - The Strategy

2. RURAL STRATEGY OBJECTIVES



2.1 BACKGROUND

The Rural Strategy has been developed within the context of 18 'Universal Objectives'. The objectives have been developed following a review of the original Rural Strategy, coupled with an analysis of significant community consultation undertaken during 2011/12 as well as a review of updated physical and economic characteristics of the Shire.

Upon review, it was found that many of the objectives identified in the original Rural Strategy were still relevant and had served the Shire well. Many have therefore been carried over into this document. Furthermore, several themes emerged during consultation and detailed investigations undertaken as part of the review process and it was considered that these themes should form the overall basis for setting future direction of development and preservation of the Shire's Rural Areas.

The key themes, and subsequent Universal Objectives, are identified in this chapter.

2.2 KEY THEMES

Several themes emerged during the review process and it was considered that these themes should form the overall basis for setting future direction of development and preservation of the Shire's Rural Areas.

THEME 1 – PROTECTION OF NATURAL ASSETS (LOCAL NATURAL AREAS)

The Shire contains many natural assets which are of high importance to both the community and the Council. The importance of these natural assets is heavily featured in the original Rural Strategy, as well as in the many planning policies and strategies that have been prepared since. Key threats to these assets include nutrient export from rural areas, protection of remnant vegetation and protection of landscape values.

While it is recognised and generally accepted that the Shire's population will continue to grow, associated development needs to occur in a manner that does not threaten these assets.

THEME 2 – PROTECTION OF RURAL CHARACTER

One of the key themes identified by the Council during initial discussion was the desire for the Shire to retain its rural identity and avoid becoming an outer-metropolitan urbanised environment. The potential threat of urbanisation is becoming more apparent as new urban areas in the Shire are identified and pressure for urban growth in outer metropolitan regions continues.

The Shire's Rural Strategy, which will ultimately feed into the Local Planning Strategy, is a key tool in the establishment of an agreed future direction for the Shire's growth over the next 15 – 20 years. Its purpose is to identify key land uses within remaining rural areas.

THEME 3 – FACILITATE PRODUCTIVE RURAL AREAS

It will be increasingly difficult for the Shire to maintain its rural areas and rural atmosphere without ensuring that the rural areas are economically productive. Support is required at community, Council and State Government level to ensure that the land use planning system is responsive to the requirements of contemporary rural land use.

The Department of Planning/Department of Agriculture and Food document 'Agricultural Futures – Potential Rural Land Uses on the

Palusplain', recognises the importance of the palusplain running through the Shire and south into the Shire of Murray. The document is the first step in establishing a framework that considers how agricultural uses on the palusplain can be protected and enhanced. The report indicates that the total gross value of land based agriculture in the Shire is over \$84 million (2005-2006) (compared to the Shire of Murray at \$41 million over the same period).

Consultation undertaken as part of the Strategy review suggested that the economic return of agriculture in the Shire is diminishing quickly – particularly in relation to cattle farming. It was also suggested that the flexibility to create smaller lots for agricultural purposes is required. In response to this important feedback, a Market Demand and Economic Assessment was undertaken to review the economic return of traditional farming activities on varying lot sizes.

2.3 UNIVERSAL OBJECTIVES

The following Universal Objectives have been formulated for the Rural Strategy.

It is important to note that the objectives have been developed within the following context:

- The need for objectives to be readily achievable via the future definition of discrete strategies and actions in the updated Rural Strategy.
- Recognition that the objectives, as well as future strategies and actions, need to be readily implemented via the land use planning system.

UNIVERSAL OBJECTIVES

THEME: PROTECTION OF NATURAL ASSETS

- **01.** Ensure that protection and enhancement of biodiversity assets in the Shire is considered early in the planning process.
- **02.** Maintain and enhance the quality and quantity of remnant vegetation throughout the Shire.
- **03.** Protect the integrity of Resource Enhancement and Conservation Category wetlands throughout the Shire from inappropriate land use.
- **04.** Minimise offsite nutrient loading through appropriate land management and drainage considerations.
- **05.** Recognise that a large proportion of the Shire's rural areas are classified as Multiple Use palusplain and that there may be opportunities for bona-fide rural activity within these areas.
- **06.** Consider sustainable and efficient groundwater use, allocation and alternative water sources as an integral component of the planning process.
- **07.** Prevent the worsening of land and water quality as a result of development, particularly on the palusplain

THEME: PROTECTION OF RURAL ATMOSPHERE

- **08.** Maintain the 'nodal' pattern of urban development and urban villages in the Shire, interspersed with rural wedges. Specifically maintain a distinct 'rural wedge' between Serpentine and existing/proposed urban areas to the north.

- **09.** Facilitate an appropriate form of rural living development in appropriate locations in the Shire's rural areas.
- **10.** Protect the landscape integrity of the scarp.
- **11.** Recognise landscape as a legitimate issue for consideration within the planning and development process.
- **12.** Subject to confirmation in the Urban Growth and Activity Centres strategies, limit the identification of new urban nodes within the Shire for the lifetime of this strategy.
- **13.** Consolidate medium-long term urban growth within the already defined areas of Byford and Mundijong-Whitby.

THEME: FACILITATE PRODUCTIVE RURAL AREAS

- **14.** Recognise the legitimacy of a broad economic base within the Shire's rural areas that does not focus solely on broad-acre agriculture.
- **15.** Recognise and facilitate the on-going economic development of the Shire's rural industries/activities as a mechanism to meet the objectives of the 'natural assets' and 'rural atmosphere' objectives (identified above).
- **16.** Promote agri- and rural-tourism within the Shire.
- **17.** Recognise the importance of best practice environmentally managed extraction of Basic Raw Materials within the Shire.
- **18.** Promote and encourage alternative agricultural land uses (provided they do not contribute to land degradation).

3. SETTLEMENT PATTERN



3.1 BACKGROUND

The face of the Shire has changed significantly since the original RS was prepared in 1994 and continues to do so – in particular with the introduction of an urban node at Byford and another at Mundijong-Whitby. Some of these are significant and are being planned in accordance with the Shire's Planning Framework as identified in Section 1.4 of this document.

What this means for the Rural Strategy is that it's vitally important to protect those areas that are not yet affected by planned, or actual, urban development. It also means that there are areas of the Shire that will not be covered by provisions in the Rural Strategy, but rather will be addressed by one of the other planning documents listed in Section 1.4.

3.2 EXCLUSION AREAS

The Rural Strategy excludes existing and future urban cells or areas where future planning is currently underway. These areas include:

- the Byford Structure Plan and urban area
- the Mundijong-Whitby District Structure Plan Area
- three large lots between Byford and Mundijong-Whitby urban cells which are subject to future investigation
- the land to the south-west of Mundijong-Whitby urban cell (Future Investigation Area)
- Serpentine town site Local Structure Plan area
- West Mundijong Industrial Area
- Cardup Business Park.

Planning for Byford, Mundijong-Whitby and Oakford/Oldbury are underway and details of proposals for these areas can be obtained from the Shire. Some small expansion of the Serpentine town site is proposed through the Serpentine Local Structure Plan. The land between Byford and Mundijong-Whitby is subject to future investigation as due to the proximity to existing urban cells and the potential to link these areas. A small area to the south-west of the Mundijong-Whitby urban cell is also subject to further investigation. Planning is already underway for the West Mundijong Industrial Area and the Cardup Business Park and land use in these areas will not be rural in nature.

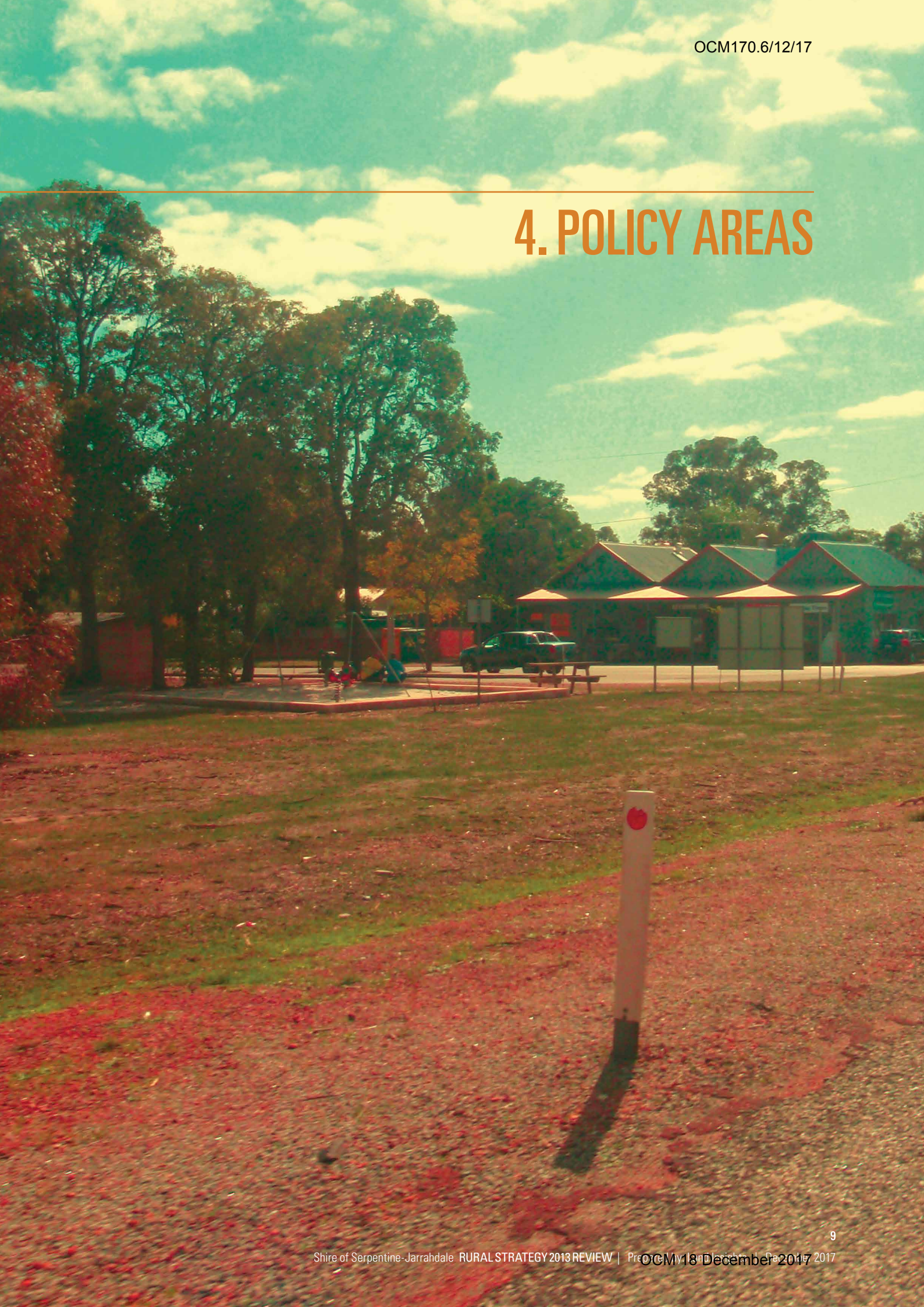
The exclusion areas will be considered in a consolidated form as part of a future Local Planning Strategy.

3.3 RURAL SETTLEMENTS

Three rural settlement affected by the Rural Strategy includes the Serpentine townsite.

As stated in Section 3.2 above, a town site expansion area has been identified for Serpentine and will be guided by the Serpentine Local Structure Plan. This area is being planned independently to the Rural Strategy. Provision around the town site area has provided for Rural Residential lots.

4. POLICY AREAS



4.1 BACKGROUND

The original Rural Strategy identified a range of Policy Areas and policy overlays. The approach has worked well and resulted in the Shire having a clear direction in which to plan for the Shire's Rural Areas, as well as consider applications for development.

A similar approach to Policy Areas has been integrated into this review document, with the aim of updating the objectives and guidelines according to any changes in policy since the last review. The objectives, guidelines and provisions have been included to assist the Shire in decision making. It should be noted that the Rural Strategy is the lead strategic document to guide future land use in the rural areas of the Shire and there will, and should, always be discretion for the Shire to make appropriate decisions by referring to the 'Universal Objectives' of the Strategy. The Rural Strategy map is provided in Figure 4.1.

STRUCTURE OF THE POLICY PROVISIONS

The following Policy Areas are identified in the Strategy:

- Town and Village Urban
- Rural Living A and B
- Farmlet
- Rural
- Agricultural Protection
- Conservation – Private Land
- Raw Materials Extraction
- Residential and Stable

Each policy area is described in a similar manner.

DESCRIPTION

What is the policy area about? Where is it located? What is it trying to achieve? How does it relate to existing land use and development?

OBJECTIVES

What are the planning (land use and development) objectives for the policy area?

SUBDIVISION AND DEVELOPMENT GUIDELINES

What specific guidelines do future applications or land uses need to consider in the policy area?

POLICY OVERLAYS

The following Policy Overlays were identified in the previous Rural Strategy 1994 and subsequent reviews. The Policy Overlays were intended as another map layer which referred purely to land management issues. The overlays help identify which areas of the Shire have more specific planning requirements (such as environmental or landscape considerations).

- Environmental Repair (previously revoked by Council)
- Landscape Protection
- Rural Landscape Buffers
- Intensive Agriculture
- Tourism and Recreation
- Roadsides Conservation.

The exact extent of many of these Policy Overlays is unknown (no maps exist) except for the landscape protection Policy Overlay. It is therefore difficult to conduct a comprehensive review of these Policy Overlays. The review therefore focussed on the objectives and guidelines for these overlays and how they could be improved to help better achieve the purpose.

One Policy Overlay area is shown on the Rural Strategy plan:

- Poultry Policy Overlay.

4.2 TOWN AND VILLAGE URBAN POLICY AREA

DESCRIPTION

The Town and Village Urban Policy Area includes the existing townsites of Keysbrook and Jarrahdale. Keysbrook and Jarrahdale are identified as single developed nodes and the policy area encompasses existing urban centres. These areas are expected to expand as distinct, tightly developed urban centres, servicing the needs of the local communities and largely surrounded by rural lands.

JARRAHDAL

No expansion of the Jarrahdale urban area is contemplated under this Strategy. There are existing areas in the town already zoned for Residential purposes. The future development of these areas will be governed by the existing provisions of the Town Planning Scheme and the prevailing Residential Design Codes.

KEYSBROOK

Keysbrook does not have any residential zoned land and acts mainly as a small service centre for the surrounding agricultural areas. No further growth of Keysbrook is envisaged under this Strategy.

The towns of Mundijong-Whitby and Byford are currently being developed as major towns in the Shire. The 1994 Strategy notes that the vision for these areas is that development results in distinct urban villages with small scale open street shopping areas rather than suburban sprawl with only one local centre. It also envisages that these villages are separated with open space or natural areas but are easily connected for transport and servicing. It also identified new villages at Oakford, The Flats and Hopelands.

The Serpentine town site is subject to the Serpentine Local Structure Plan and is therefore excluded from the Rural Strategy as planning for this area is being done independently. Provision around the town site area has provided for Rural Residential lots.

It should be noted that the Possible "Flats Village" Site and "Oakford Village" sites have been removed from the Rural Strategy map.

OBJECTIVES

The objectives of the Town and Village Urban Policy Area are to:

- Accommodate urban growth sympathetic to rural lifestyle and in a healthy community
- Encourage some infill residential development in existing towns and villages, while maintaining variety in lot sizes available
- Provide for urban expansion of existing towns and villages where the capability and suitability for such expansion is identified
- Encourage medium density urban development centrally located in the town and village environment
- Locate new villages in strategic areas in accord with the objectives of the Strategy
- Service new urban development in towns and villages with small scale tertiary sewage treatment plants, or ensure that approved alternative domestic effluent disposal systems are used
- Provide community facilities and social infrastructure to surrounding areas
- Optimise the use of public transport and in particular existing rail links to Perth. Allow for mixed land use zoning.

SUBDIVISION AND DEVELOPMENT GUIDELINES

- No further expansion of Jarrahdale or Keysbrook is envisaged during the life of this RS.

4.3 RURAL LIVING POLICY AREA

DESCRIPTION

The Rural Living Policy Area provides an opportunity for residential uses in a rural setting. The opportunity for this style of development is becoming harder to find in the metropolitan area and is one of the key characteristics associated with the Shire of Serpentine Jarrahdale. Rural Living development in this instance provides both a mechanism to house a growing population while maintaining the rural character and landscape that has been recognised as being of significance to the identity of the Shire.

An amendment to the Local Planning Scheme will be required to support Rural Living development in areas not already zoned. The Shire will only support proposals that are appropriately designed and that will result in a high-amenity development.

The Rural Strategy divides the Rural Living Policy Area as such:

- Rural Living A
- Rural Living B

These categories were determined in 1994 due to the existing special rural development in the Shire which consisted of lot sizes of approximately 2ha. It was considered that this size was not a viable future option for development as the lots were expensive to service and manage and were too small to be used as hobby farms. Rural Living A was created to cater for smaller lot sizes from 0.4ha – 1ha and existing Special Rural areas were categorised as Rural Living B which allowed for a lot size between 2-4ha. An area west of Serpentine was categorised as Rural Living A and B to allow lot sizes to range from

0.4ha – 4ha to allow smaller lots to develop close to town. This was intended as a special case only and this category has not been carried over in this review.

The majority of Rural Living areas identified in the original RS have now been developed. Some additional areas have now been identified as Rural Living A and Rural Living B, mainly to complete what are existing estates. This will result in a slight expansion of existing rural living development in the Shire, but will not create new rural living nodes.

OBJECTIVES

The objectives of the Rural Living Policy Area are to:

- Provide for additional choice in style and location of residential land not available within the Shire's urban nodes.
- Maximise the provision, use and efficiency of infrastructure available in and around the Shire's urban nodes.
- Restrict rural land uses that are not generally compatible with maintaining residential amenity.
- Provide opportunities for development that maintains rural character and promotes appropriate land management.
- Provide for a diversity of lot sizes ranging from 0.4 and 4 hectares.
- Provide opportunity for low-key tourism, such as Bed & Breakfast accommodation
- Protect Local Natural Areas and encourage revegetation.

SUBDIVISION AND DEVELOPMENT GUIDELINES

The land identified in the Policy Area has potential for further subdivision. Subdivision should occur in a coordinated manner and needs to be pre-empted by an amendment to the Shire's Local Planning Scheme that incorporates a Subdivision Guide Plan and appropriate scheme provisions. In this regard any amendment should cover a significant portion of the affected portion of the Policy Area. This will allow for appropriate integration of lot design, access and infrastructure provision.

General subdivision and development guidelines which apply to all three rural living categories are provided below:

- An amendment to the Shire's Local Planning Scheme is required prior to subdivision occurring in this Policy Area.
- The extent of the amendment area should be agreed with the Shire or as defined in a relevant Local Planning Policy as no amendments covering small areas (including any single lots) will be contemplated.
- The use of aerobic treatment units with nutrient attenuation abilities is required unless lots can be connected to a reticulated/ contained sewerage system.
- An amendment request should be accompanied by a Development Plan that, as a minimum, considers:
 - Land qualities and suitability
 - Lot layout
 - Potential land uses
 - Physical features of the site
 - Landscape assessment
 - Protection and enhancement of Local Natural Areas
 - Fire risk and management

- Nutrient retention and management
- Building exclusion zones
- Infrastructure and servicing requirements
- Integration with surrounding land uses
- Council has full discretion whether to initiate an amendment to the Local Planning Scheme to facilitate development within this policy area. Considerations given to whether an amendment could be initiated would include:
 - Whether the land proposed to be developed is a logical development area at the time
 - Whether the information provided with the amendment request is sufficient to allow a decision to be made
 - Whether, in Council's opinion, there is a demand for the particular land use and lot size proposed
 - Whether, the land is capable of being serviced
 - Any other matter as may be considered relevant by Council at the time the amendment request is made.

Specific subdivision and development guidelines for the different rural living categories are provided below.

RURAL LIVING A

- Lot sizes can range between 0.4ha to 1ha with the possibility of limited larger balance lots where capability and site constraints dictate (max 4ha).
- All lots created require connection to a reticulated water supply where possible in accordance with prevailing WAPC Policy at the time.
- Clause 5.12.4 of Town Planning Scheme No.2 applies in the following area where a minimum lot size of 1 hectare is permitted unless connected to reticulated sewer:
 - Lot 4 (331) Kargotich Road and Lot 2 (1842) Thomas Road, Oakford.
- Clause 5.12.4 of Town Planning Scheme No.2 applies in to the following areas where a minimum lot size of 1 hectare is permitted, unless a Subdivision Guide Plan and/or overlay depicting smaller lots was existing and approved at such time as the Rural Strategy Review was supported by the WAPC:
 - Rural Living A area east of Kargotich Road, north of Gossage Road, west of future Tonkin Highway and south of Special Rural 17 and 20.
 - Rural Living A west of Hall Road, north of Wattle Road, east of Walker Road and south of Karnup Road, Serpentine.
 - Land bound by Jarrahdale Road, Nettleton Road and Rhodes Place.

RURAL LIVING B

- Lot sizes can range between 2ha to 4ha with the possibility of limited larger balance lots where capability and site constraints dictate.
- A rainwater supply of 120,000 litres is required for each lot.

4.4 FARMLET POLICY AREA

DESCRIPTION

The Farmlet Policy Area is essentially another form of rural living opportunity in the Shire, but with larger land parcels that may be suited to some limited form of agricultural production. The 1994 strategy intended for this policy area to be used for commercial production, alternative agriculture and some intensive agriculture and hobby pursuits. The size of the lots are such that any agricultural production will likely be a part time enterprise, however a range of land uses can be incorporated into the Policy Area. Lot sizes in this Policy Area can range from 4 to 40 hectares. It is anticipated that this Policy Area will remain largely rural in nature and will help to retain rural character and aesthetics.

An amendment to the Local Planning Scheme will be required to support Farmlet development in areas not already zoned. The Shire will only support proposals that are appropriately designed and that will result in a high-amenity development. There is limited land in the Shire which has the capacity to support Farmlet development due to poor drainage, waterlogging, low soil productivity, erosion risk and poor effluent disposal capability.

OBJECTIVES

The objectives of the Farmlet Policy Area are:

- To provide for diversity of agricultural uses on smaller lots than those typically found in the Rural Policy Area.
- To locate Farmlets in close proximity to existing towns and services.
- To provide opportunities for development that maintains rural character, commercial use of the land and appropriate land management.
- To provide for a diversity of lot sizes ranging from 4 to 40 hectares.
- To provide a location for the possible development of recreational and community facilities such as golf course, sport parks and other similar uses.
- Protect Local Natural Areas and encourage revegetation.

SUBDIVISION AND DEVELOPMENT GUIDELINES

The new areas identified as Farmlet have potential for further subdivision. Subdivision should occur in a coordinated manner and needs to be pre-empted by an amendment to the Shire's Local Planning Scheme that incorporates a Subdivision Guide Plan and appropriate scheme provisions. In this regard any amendment should cover a significant portion of the identified Policy Area. The extent of this can be confirmed with the Shire at the time.

- An amendment to the Shire's Local Planning Scheme is required prior to subdivision occurring in this Policy Area.
- The extent of the amendment should be agreed with the Shire or as defined in a relevant Local Planning Policy as no amendments covering small areas (including any single lots) will be contemplated.
- Lot sizes can range between 4 and 40 hectares.

- A single residence only is permitted on each lot and subdivision for the purposes of residential development is generally not supported.
- The use of aerobic treatment units with nutrient attenuation abilities is required unless lots can be connected to a reticulated/ contained sewerage system.
- A rainwater supply of 120,000 litres is required for each lot.
- An amendment request should be accompanied by a Development Plan that, as a minimum, considers:
 - Land qualities and suitability
 - Lot layout
 - Potential land uses
 - Physical features of the site
 - Landscape assessment
 - Protection and enhancement of Local Natural Areas
 - Fire risk and management
 - Nutrient retention and management
 - Building exclusion zones
 - Infrastructure and servicing requirements, including water supply for domestic and fire fighting purposes
 - Integration with surrounding land uses
- Council has full discretion whether to initiate an amendment to the Local Planning Scheme to facilitate development within this policy area. Considerations given to whether an amendment could be initiated would include:
 - Whether the land proposed to be developed is a logical development area at the time
 - Whether the information provided with the amendment request is sufficient to allow a decision to be made
 - Whether, in Council's opinion, there is a demand for the particular land use and lot size proposed
 - Any other matter as may be considered relevant by Council at the time the amendment request is made.

4.5 RURAL POLICY AREA

DESCRIPTION

The Rural Policy Area encompasses a large portion of the southern, central and northern sections of the Shire. Much of the land in the Rural Policy Area has been subdivided previously and very few large lots remain. These large lots are mainly located at the southern extremities of the Shire.

The purpose of this Policy Area is to maintain the integrity of the Shire's rural and agricultural character. The original RS did not support the subdivision of lots below the minimum lot size of 40ha. While it is acknowledged in the original RS that no meaningful minimum lot size for agricultural viability can be determined where the range of agricultural land uses is varied, the minimum lot size is intended to prohibit Farmlet or rural living subdivision. Since the preparation of the Rural Strategy in 1994, the WAPC have released Development Control Policy 3.4 that aims to protect the integrity of agriculture by preventing ad-hoc subdivision. This Policy also supports the 40ha minimal lot size in the agricultural/rural zone.

While it is recognised that the agricultural productivity and economic returns for some forms of agriculture are diminishing, it is important to also consider the longer term rural landscape, features and amenity of the Shire along with the application of appropriate planning principals. In this regard the rural areas in the Shire become particularly important in preserving the Shire's rural character, broad open vistas and opportunity for the use of larger lots for intensified development into the future. The identification of rural land in the Shire also reflects the need to retain large parcels of land for future development purposes and infrastructure needs including possible future urban and industrial development beyond 2031. Therefore, land in the Rural Policy Area is not solely identified for agricultural or productive value but also the need to retain large parcels of land for future urban or industrial development.

A large majority of the Rural Policy Area is mapped by the Department of Environment Regulation as a palusplain wetland, and, as such, most of this area is low-lying and subject to waterlogging and is not suited to closer subdivision.

OBJECTIVES

The objectives of the Rural Policy Area are:

- To retain and maintain traditional agricultural uses in this Policy Area.
- To promote alternative agricultural uses, particularly those that have less land degradation and higher commercial viability.
- To prevent the further fragmentation of land through subdivision and thus retain the remaining large lots for future rural use
- To retain and enhance the rural lifestyle and character of the area.
- To protect Local Natural Areas and encourage revegetation.

SUBDIVISION AND DEVELOPMENT GUIDELINES

- Limited subdivision is proposed in this Policy Area. Where subdivision can meet minimum lot sizes it can occur without the need for rezoning.
- Minimum lot size in the Policy Area is 40 hectares.
- Development should accord to the prevailing requirements of the Shire's Local Planning Scheme as it pertains to the General Rural zone.
- Lot rationalisation and realignment within the policy area will be supported to facilitate improvements to the use, efficiency and viability of rural land in the Shire, in accordance with WAPC Development Control Policy DC 3.4 and State Planning Policy 2.5 – Land Use Planning in Rural Areas.
- Other subdivision within the policy area is guided by the provisions of prevailing WAPC policy provisions at the time of application, including State Planning Policy 2.5 – Land Use Planning in Rural Areas.

4.6 AGRICULTURAL PROTECTION POLICY AREA

The purpose of the Agricultural Protection Policy Area (as stated in the 1994 Strategy) is to provide an extra level of protection for productive agricultural land and the agricultural use to which it is or may be put. The protection of rural lifestyle and character is also a significant objective in the use and development in this Policy Area. The policy area included land classified as having a high land capability for annual and perennial horticulture and grazing in the regional soil-landscape and land capability databases.

Subdivision in this policy area can be supported for full-time commercial agricultural pursuits (excluding Farmlet and rural living land uses). Proposals should be assessed on a case by case basis. The recommended minimum lot size is 40ha.

OBJECTIVES

The objectives of the Agricultural Protection Policy Area are:

- To retain and maintain the productive capability of land for agricultural enterprises in proximity to Perth and its markets.
- To ensure that productive agricultural enterprise remains the primary land use and to maintain the integrity of agricultural infrastructure.
- To adopt proactive and cooperative approaches with landowners to address catchment management and land degradation problems.
- To support and protect agricultural and horticultural industries through:
 - Reduced pressure for fragmentation of land to other uses
 - Resource security for agricultural enterprise
 - Maintenance of relative land values
 - Reduced pressure on agriculture from problems such as feral dogs and cats, stock straying into urban areas, competition for water rights and increased traffic problems.
- To minimise or eliminate nutrient (particularly phosphorus) export into the Peel-Harvey estuarine System.

SUBDIVISION AND DEVELOPMENT GUIDELINES

Limited subdivision is provided for in this Policy Area. Where subdivision can meet minimum lot sizes it can occur without the need for rezoning.

- Subdivision will only be supported for commercial agricultural purposes in lot sizes above 40 hectares.
- Development should accord to the prevailing requirements of the Shire's Local Planning Scheme as it pertains to the General Rural zone.
- Lot rationalisation and realignment within the policy area will be supported to facilitate improvements to the use, efficiency and viability of rural land in the Shire, in accordance with Development Control Policy DC 3.4 and State Planning Policy 2.5 – Land Use Planning in Rural Areas.
- Other subdivision within the policy area is guided by the provisions of prevailing Western Australian Planning Commission policy provisions at the time of application, including State Planning Policy 2.5 – Land Use Planning in Rural Areas.

- Subdivision and development on adjacent lands should be compatible with, and not cause off-site impacts detrimental to the continued agricultural use of land in the immediate area.
- Where a residence is permitted:
 - In a majority of situations, conventional septic systems for domestic effluent disposal will be permitted
 - A guaranteed water supply of 120,000 litres will be required
 - All residences (setback distances or building envelopes) to be situated outside floodways and outside the reach of the 1 in 100 year flood event
 - Building setback distances from boundaries, streams and wetlands to be defined
 - Fire protection must be considered in the siting of residences
- Controls over the siting and design of buildings may be required to minimise the visual impact of built structures and maintain landscape values.

4.7 CONSERVATION POLICY AREA

DESCRIPTION

The aim of this Policy Area is to provide an increased level of protection and management for privately-owned land with significant environmental values. This is achieved by ensuring that development which is incompatible with the maintenance of conservation values is not permitted to take place. These areas have been zoned as Conservation in the Shire's Planning Scheme in accordance with the Shire's Biodiversity Incentives Strategy for Conservation on Private Land.

The aim of the Conservation zone is to encourage and assist landowners to manage and protect biodiversity values on their properties. The desirable land uses on these properties is rural lifestyle and conservation of natural areas. Further information on management of conservation lots is contained within the Shire's Biodiversity Incentives Strategy for Conservation on Private Land.

OBJECTIVES

The objectives of this Policy Area are to:

- Identify areas of conservation significance in the Shire
- Identify land already zoned as Conservation in the Shire's Planning Scheme.
- To direct development away from this Policy Area to ensure the land use remains primarily for conservation except where it is clearly demonstrated that development is not in conflict with the objectives of managing and protecting conservation values on the property.
- To ensure that development or changes in land use do not adversely impact on the conservation values on the property.
- To develop management plans with long term guidelines for the management of these sites and to implement these through cooperative approaches with landowners and the Shire.
- Aim to create vegetated linkages through the Shire by connecting conservation zoned land or other protected land such as reserves.
- Protect Local Natural Areas and encourage revegetation.

Shire of Serpentine-Jarrahdale
 Local Government boundaries
 Cadastre
 Future Road Connection
 MRS Rural - Water Protection
 Urban or Industrial cell
 Subject to Future Investigation

POLICY AREAS

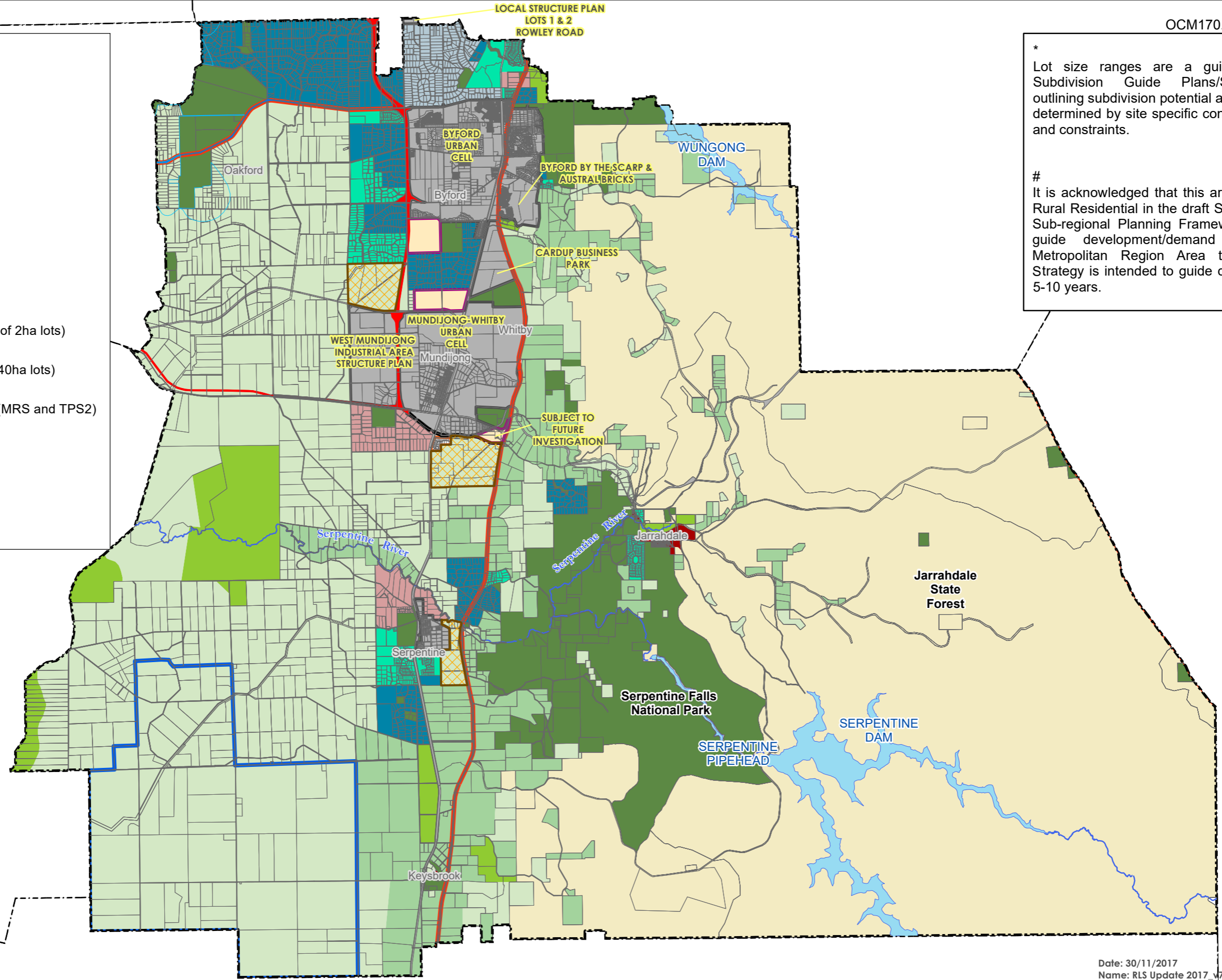
- Primary Regional Road
- Other Region Roads
- Railway
- Town & Village Urban
- Rural Living 'A' *
- Rural Living 'B' *
- Residential and Stable (minimum of 2ha lots)
- Farmlet (4ha to 40ha lots)
- Agricultural Protection (minimum 40ha lots)
- Rural (minimum 40ha lots)
- Parks & Recreation - Public land (MRS and TPS2)
- Conservation - Private Land
- State Forest
- Special Use Zone (existing)
- Framework Investigation Area #

POLICY OVERLAYS

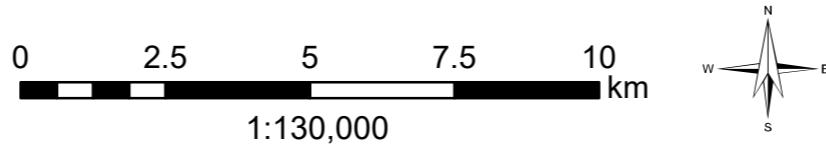
- Poultry Policy Overlay

*
 Lot size ranges are a guide only. Final Subdivision Guide Plans/Structure Plans outlining subdivision potential are determined by site specific conditions, capability and constraints.

 It is acknowledged that this area is depicted as Rural Residential in the draft South Metropolitan Sub-regional Planning Framework, intended to guide development/demand in the Perth Metropolitan Region Area to 2050. This Strategy is intended to guide development for ~ 5-10 years.



Date: 30/11/2017
 Name: RLS Update 2017_v7 (Nov 2017).mxd



Policy Areas
FIGURE 4.1 - RURAL STRATEGY REVIEW 2017

5. IMPLEMENTATION



5.1 BACKGROUND

Implementation of the Rural Strategy will occur progressively over time. It is the nature of the strategy that it sets the broad direction for the Shire and will guide future subdivision and development applications. Given it also considers subdivision the Strategy requires endorsement of the Western Australian Planning Commission.

The RS will be referred to by the Council on an ongoing and frequent basis – particularly in relation to informing the determination of Development Applications received, provision of advice on subdivision applications, and probably most importantly – the initiation of Town Planning Scheme zoning amendments in the Shire’s rural areas.

5.2 IMPLICATIONS OF REVIEW

Final adoption of the Rural Strategy will create a need for other Shire strategic documents to be reviewed to ensure consistency with the principals and policy areas adopted. In this regard, consideration will need to be given to:

- Finalising planning for the identified urban growth areas not considered in the Rural Strategy.
- Preparing a Local Planning Strategy that considers the interface and integrated planning of the Shire’s rural and urban areas.
- Preparing a new Local Planning Scheme that provides a contemporary statutory framework based on the Model Scheme Text for implementation of the Rural Strategy.
- Review and update Local Planning Policies to reflect current practices in the Shire.

5.3 REVIEW

While the Rural Strategy sets out a 20+ year vision for the development of the Shire’s Rural Areas, it is likely that characteristics of the Shire and the demands placed on it will continue to change over time. As a result it is recommended that the Rural Strategy be reviewed at five yearly intervals to ensure that it still reflects contemporary planning practice while maintaining the needs and requirements of the local community.

The RS may be revoked upon adoption of a future Local Planning Strategy.

Part B - Background

6. STATUTORY AND POLICY FRAMEWORK



6.1 STATE PLANNING STRATEGY

The State Planning Strategy was launched in 2014. The Strategy is a major review of the 1997 strategy – with a focus on developing a vision for the State to 2050. The State Planning Strategy 2050 is the Government’s strategic planning response to the challenges Western Australia is likely to face. It contemplates a future in which high standards of living, improved public health and an excellent quality of life are enjoyed by present and future generations of Western Australians. The Strategy proposes that diversity, liveability, connectedness and collaboration must be central to the vision of sustained growth and prosperity

The Strategy develops an array of Strategic Directions that will guide future land use and development, addressing a range of issues. Of relevance to the Rural Strategy are the key principles of the document, which should influence the broad strategic direction of the RS. The relevant principles are identified below.

- **COMMUNITY** – Enable diverse, affordable, accessible and safe communities.
- **ECONOMY** – facilitate trade, investment, innovation, employment and community betterment
- **ENVIRONMENT** – Conserve the State’s natural assets through sustainable development
- **INFRASTRUCTURE** – Ensure infrastructure supports development
- **REGIONAL DEVELOPMENT** – Build the competitive and collaborative advantages of the regions
- **GOVERNANCE** – Build community confidence in development processes and practices.

IMPLICATIONS

Objectives in the State Planning Strategy which have relevance to the Rural Strategy are:

- Provide controls to secure the retention and enhancement of the environmental quality we have enjoyed in the past
- Sustainably manage and conserve our natural resources and restore degraded ones
- Build on the State’s economic, social and environmental advantages
- Facilitate the provision of strategic infrastructure to support regional development.

These basic principles should resonate in the Rural Strategy through incorporation in the overall objectives and in the other provisions of the Strategy.

6.2 STATE PLANNING POLICIES

Several Statements of Planning Policy have relevance to the preparation of the Rural Strategy. Those of relevance to the Strategy are discussed in the table following.

SPP	DESCRIPTION	IMPLICATIONS
SPP 1 State Planning Policy Framework (Variation No. 2)	SPP 1 helps guide the decision-making process in regards to land use and development in WA. It indicates which policies and strategies the WAPC and the Department of Planning should refer to when making decisions. It provides a list of all the plans, policies and strategies that form a part of the State Planning Framework.	guidelines in SPP 1 to ensure that development in the Shire is consistent with state policy.
SPP 2 – Environment and Natural Resources	SPP 2 is a broad, sector issue policy under Statement of Planning Policy No. 8: State Planning Framework Policy. It defines the principles and considerations that represent good and responsible planning in terms of environment and natural resource issues within the framework of the State Planning Strategy. SP 2 is supplemented by more detailed planning policies on particular natural resources matters that require additional information and guidance (below).	The provisions in the Rural Strategy need to be consistent with the guidelines in SPP 2 to ensure that development in the Shire is consistent with state policy.
SPP 2.1 – The Peel-Harvey Coastal Plain	The purpose of SPP 2.1 is to ensure that land use changes within the Peel-Harvey Estuarine System likely to cause environmental damage to the estuary are brought under planning control and prevented. A major purpose of the policy is to ensure that landowners seek development approval prior to committing their investments.	The provisions in the Rural Strategy need to be consistent with the guidelines in SPP 2.1 to ensure that development in the Shire is consistent with state policy. The Rural Strategy requires that further environmental information is provided to support rezoning and planning applications.
SPP 2.3-Jandakot Groundwater Protection Policy	The main purpose of the SPP 2.3 is to ensure development over the Jandakot public groundwater supply mound is compatible with the long-term use of the groundwater for human consumption. The Policy is to ensure that land use changes within the Policy Area that are likely to cause detrimental effects to the groundwater are brought under planning control and prevented or managed. This policy is currently under review.	Subdivision potential for the 'Rural-Water Protection' zone within the Policy Area will continue to be guided by the Jandakot Land Use and Water Management Strategy. The 'Rural-Water Protection Zone' is largely shown as Rural in the Strategy, with a small amount of Rural Living B at the northern end. The 'Water Catchments Reservation' areas are shown as Parks and Recreation Public Land in the Strategy. The current TPS 2 was amended to better reflect the requirements of SPP 2.3 by adding clause 5.20 Rural Groundwater Protection Zone and modifying clause 3.1.1 by adding reference to the zone.
Draft SPP 2.3 – Jandakot Groundwater Protection Policy	The policy aims to prevent, control or manage development and land use changes in defined locations in the Jandakot Groundwater Protection Policy Area that are likely to cause detrimental effects to the groundwater resource. Its intent is to ensure any development that is approved in the policy area includes adequate protection against water quality contamination risks.	There are no changes to the Priority Areas in the draft SPP 2.3 within the Shire. The P1 areas are shown as Parks and Recreation Public Land and the P2 areas are within the Rural Policy Area in the Rural Strategy within a small part at the north-western corner of the Shire which is Rural Living B (minimum lot size is 2ha).
SPP 2.4 – Basic Raw Materials	This policy sets out the matters which are to be taken into account and given effect to by the WAPC and local governments in considering zoning, subdivision and development applications for extractive industries (for the extraction of basic raw materials) and zoning, subdivision and development applications in the vicinity of identified basic raw material resource areas.	The Shire includes areas identified under this policy. Therefore, it is important that the Strategy provides for basic raw material policy areas and the provisions for these areas are consistent with SPP 2.4.

SPP	DESCRIPTION	IMPLICATIONS
SPP 2.5 – Agricultural and Rural Land Use Planning	<p>SPP 2.5 applies to rural and agricultural land in the State. The Policy is guided by the fundamental principles that:</p> <ul style="list-style-type: none"> • the State’s priority agricultural land resource should be protected • rural settlement opportunities should be provided if sustainable and of benefit to the community • the potential for land use conflict should be minimised • the State’s natural resources should be carefully managed. 	<p>A substantial proportion of the Shire is currently used for rural activity. It is important that the Strategy includes provisions for significant or priority agricultural areas. The current Strategy provides for these areas in the Agricultural Protection and Farmland Policy Areas.</p>
SPP 3.5 – Historic Heritage Conservation	<p>SPP 3.5 provides guidance on the identification, planning and management of places of historic heritage significance. The policy applies principally to historic cultural heritage including heritage areas, buildings and structures, historic cemeteries and gardens, man-made landscapes and historic or archaeological sites with or without built features.</p>	<p>There is potential that subdivision and development applications on rural land could lead to more effective management of heritage places through conditions placed on approvals.</p>
SPP 3.7 – Draft Planning for Bushfire Risk Management	<p>Draft SPP 3.7 has recently been prepared to assist in reducing the risk of bushfire to people, property and infrastructure by taking a risk-minimisation approach to development proposed in bushfire-prone areas. It should be used to inform and guide decision-makers, referral authorities and proponents to achieve acceptable fire protection outcomes on planning proposals in bush-fire prone areas.</p>	<p>Bushfire hazard assessments and Fire Management Plans are to be prepared for individual sites. The Rural Strategy recommends this for certain Policy Areas in bushfire-prone areas.</p>
SPP 4.3 – Poultry Farms	<p>This policy is to guide the WAPC and local governments in determining rezoning, subdivision and development applications for poultry farms. The policy also sets out the process and matters to be taken into account in dealing with residential and other forms of development in the vicinity of poultry farms.</p>	<p>The Shire includes poultry farms which are located within the rural area. It is important that the Strategy includes provision for poultry farms.</p>

6.3 DRAFT OUTER METROPOLITAN PERTH AND PEEL SUB-REGIONAL STRATEGY

The purpose of the sub-regional strategy is to follow on from Directions 2031 and provide guidance at the local level. It also aims to address issues that extend beyond local government boundaries and that require a regional response as well as commonly shared issues such as provision of housing choice and affordability.

The Outer Metropolitan Perth and Peel Sub-regional Strategy address strategic planning issues in the outer sub-regions of north-west, northeast, south-east and south-west metropolitan Perth and the Peel sub-region. The aim is that the sub-regional strategy will help guide the preparation and review of structure plans and local planning strategies at a local planning level (hence its relevance to the Rural Strategy).

IMPLICATIONS

The Shire of Serpentine Jarrahdale is located within the South-East Sub Region in the strategy. The Shire is identified as a predominantly rural area therefore is currently not earmarked for potential urban expansion. The vision of the strategy in making Perth and Peel a more green and accessible liveable city should be addressed in the Rural Strategy.

6.4 WESTERN AUSTRALIAN STATE SUSTAINABILITY STRATEGY

The Western Australian State Sustainability Strategy was prepared in September 2003 by the Department of Environment and Conservation. The State Sustainability Strategy defines sustainability as meeting the needs of the current and future generations through integration of environmental protection, social advancement and economic prosperity. The Strategy is based on a sustainability framework of eleven sustainability principles and six visions for Western Australia. The Eleven Sustainability Principles are as follows:

- Long-term economic health
- Equity and human rights
- Biodiversity and ecological integrity
- Settlement efficiency and quality of life
- Community, regions, sense of place and heritage
- Net benefit from development
- Common good from planning
- Integration of the Triple Bottom Line
- Precaution
- Accountability, transparency and engagement
- Hope, vision, symbolic, and iterative change

The Six Sustainability Visions for Western Australia are as follows:

- Ensure that the way the State is governed is driving the transition to a sustainable future
- Play our part in solving the global challenges of sustainability
- Value and protect our environment and ensure the sustainable management and use of natural resources
- Plan and provide settlements that reduce the ecological footprint and enhance our quality of life

- Support communities to fully participate in achieving a sustainable future
- Assist businesses to benefit from and contribute to sustainability.

IMPLICATIONS

Sustainable living and development is now an important consideration when new development or changes land use are proposed. Principles of sustainability can also be applied to existing development and the daily lives of all Western Australians. One of the aims of the Rural Strategy should be to integrate the principles of sustainability wherever possible to ensure that new and existing development and land use leads to better use of resources and conservation of the natural environment for future generations to enjoy.

6.5 WESTERN AUSTRALIAN PLANNING COMMISSION DEVELOPMENT CONTROL POLICIES

DEVELOPMENT CONTROL POLICY 1.1 – SUBDIVISION OF LAND GENERAL PRINCIPLES

Development Control (DC) Policy 1.1 sets out the general principles which the WAPC use to assess subdivision applications. It outlines the procedures to follow when preparing a subdivision application as well as the WAPC's requirements for the creation of new lots. It is also supported by other DC policies which provide information on the more detailed requirements for the creation of new lots. The broad objectives followed by the WAPC are contained in Section 2 of the policy.

IMPLICATIONS

This DC Policy largely consists of broad guidelines and objectives relating to subdivision of land throughout the state and is not specific to rural areas or the Shire. Nevertheless, it is still important that the requirements of the WAPC are taken into consideration in the preparation of the Rural Strategy and subsequent planning documents prepared by the Shire.

DEVELOPMENT CONTROL POLICY 3.4 – SUBDIVISION OF RURAL LAND

DC Policy 3.4 sets out the principles which are used by the WAPC in determining applications for the subdivision of rural land. The objectives of the policy are to:

- Protect rural land from incompatible uses
- Promote regional development through provision of economic opportunities on rural land
- Promote sustainable settlement in and adjacent to urban areas
- Protect and improve environmental, landscape and cultural assets
- Minimize land use conflict.

With regards to rural living development, the Policy states that the subdivision of rural land for rural living must be properly planned through the preparation and endorsement of strategies and schemes. With regards to subdivision for intensive agriculture, the Policy states that land should be identified for this purpose in a strategy or scheme and that the creation of new rural lots through ad-hoc, unplanned

subdivision is considered to be inconsistent with, or contrary to, the objectives of this policy.

The policy measures relate to subdivision of rural land in the following circumstances:

- To realign lot boundaries
- Protection of environmental and heritage
- Significant physical division
- Homestead lots
- Closer settlement and more intensive agricultural uses in rural areas
- Rural lots for farming and conservation
- Strata proposals for agriculture.

IMPLICATIONS

Of particular relevance to the Shire and the Rural Strategy are the policy measures relating to closer settlement, intensive agriculture and rural lots for conservation. The Strategy aims to identify land for possible intensive agriculture (Farmet zoned land) in accordance with the requirements of DC 3.4 to avoid ad-hoc rural subdivision. The Rural Strategy also supports the creation of lots zoned for Conservation for rehabilitation and future management. This is also supported by the Biodiversity Incentives Strategy prepared by the Shire. The Rural Strategy also aims to identify areas for rural living in accordance with DC 3.4.

6.6 BUSH FOREVER

The Bush Forever initiative acts to identify, protect, and manage areas where regional significant bushland exist along the Swan Coastal Plain area included in the Perth Metropolitan Region. Bush Forever areas indicate the most biologically diverse areas in need of conservation to maintain Perth's ecological viability. The relevant policy objectives include:

- Meeting the needs and aspirations of the community of Western Australia for the appropriate protection and management of bushland of regional significance in the Swan Coastal Plain portion of the Perth Metropolitan Region.
- Establishing a conservation system that is, as far as is achievable, comprehensive, adequate and representative of the ecological communities of the region.
- Achieving the protection of Bush Forever Areas through a collective and shared responsibility on the part of government, landowners and the community.
- Securing partnerships between landowners, government and the community in conservation management through government and community advice, assistance and incentives.
- Establishing a range of measures that will enable the recommendations of Bush Forever for the protection of regionally significant bushland to be implemented by 2010.
- Bringing greater certainty to the processes of land use planning and environmental approvals by the early identification and protection of areas of regionally significant bushland.

IMPLICATIONS

It is important that any planning application in the Shire includes consideration of Bush Forever areas if located within or surrounding the application area. While some consideration for Bush Forever areas can be referred to in the Rural Strategy, it is most relevant in the biodiversity Strategy and Local planning Strategy.

6.7 SHIRE OF SERPENTINE-JARRAHDALE TOWN PLANNING SCHEME NO.2

The Shire of Serpentine Jarrahdale is responsible for local planning and development control in all areas of the Shire. Development is controlled through the use of a local town planning scheme that zones and reserves local land. The Shire of Serpentine Jarrahdale Town Planning Scheme (TPS) No. 2 was gazetted on the 4 August 1989.

The objectives of the different rural zones are presented in the table below.

ZONE	OBJECTIVE
Rural	Allocation of land to accommodate the full range of rural pursuits and associated activities conducted in the Scheme Area.
Rural Living A	Intended to cater for rural residential development on a range of lots between 4,000 square metres to one hectare in accordance with the objectives and guidelines of the Rural Strategy.
Rural Living B	Intended to cater for rural residential development and ancillary rural related uses on a range of lots between two hectare to four hectare in accordance with the objectives and guidelines of the Rural Strategy.
Special Rural	Depict places within the rural area wherein closer subdivision will be permitted to provide for such uses as hobby farms, horse training and breeding, rural residential retreats and intensive horticulture, and to make provision or retention of the rural landscape and amenity in a manner consistent with the orderly and proper planning of the selected areas.
Farmlet	Intended to cater for a range of lots between four and forty hectares to allow for a variety of lot sizes in accordance with the objectives and guidelines of the Rural Strategy.
Conservation	Intended to identify land with high conservation significance.

ZONE	OBJECTIVE
Agriculture Protection	Ensures that productive agricultural enterprises remain the primary land use and to maintain the integrity of agricultural infrastructure; and to support and protect agricultural and horticultural industries through reduced pressure for fragmentation of land to other land uses; resource security for agricultural enterprise and maintenance of relative land values and rates levied.

Clause 5.12.9 of Town Planning Scheme No. 2 sets out the requirements for subdivision guideline plans for land included in Rural Living A and Rural Living B zones. Similarly, Clause 5.13.6 outlines the requirements for a subdivision guide plan for land included in the Farmlet Zone.

IMPLICATIONS

The objectives and policy provisions in the 1994 Rural Strategy and subsequent reviews have largely been incorporated into the TPS. The preparation of a new Rural Strategy or a Local Planning Strategy could affect the extent, location and provisions of some of these zones. A new Local Planning Scheme will be required after preparation of the Local Planning Strategy.

6.8 SHIRE OF SERPENTINE-JARRAHDALE STRATEGIC COMMUNITY PLAN 2013 – 2022

The Shire of Serpentine-Jarrahdale Strategic Community Plan outlines key objectives and actions for implementation over the next 10 years, as identified through a comprehensive community consultation program. The overall vision for the Shire is to have a sustainably developed Shire, where the community, local economy and natural environment are interconnected and thriving. The actions are categorised into six different categories (governance, financial sustainability, built environment, local economy, natural environment and community wellbeing).

Objectives in the Strategic Plan which relate to development and growth in rural areas include the following:

- Maintain the area’s distinct rural character, create village environments and provide facilities that serve the community’s needs, and encourage social interaction.
- Encourage the development of tourist attractions and accommodation.
- Maximise the Shire’s tourism, cultural, heritage and recreation potential through integration of natural and built environments.

The actions outlined in the Strategic Plan which relate to the Shire’s rural areas include:

- Restrict inappropriate development on the Scarp.
- Support and advance local industries that will benefit the Shire economically and environmentally (e.g. agricultural and equine).
- Restrict development on the Scarp.

IMPLICATIONS

The Shire’s Strategic Community Plan provides an overall vision for development and land use in the Shire until 2022. The community values and objectives help to describe the type of place that people would like to live and work in. It is important that these values and objectives are integrated into the Rural Strategy to ensure that future planning of the Shire’s rural areas is consistent with the community and Shire’s vision for the future.

6.9 LOCAL BIODIVERSITY STRATEGY 2008

The Shire’s Local Biodiversity Strategy was prepared in 2008 with the aim of presenting proposals that will lead to greater protection and management of natural areas throughout the Shire. It focuses on natural areas in the Shire including native vegetation, wetlands and waterways on private land and local reserves. The Strategy is a non-statutory document which set long-term targets and short-term actions to protect significant natural areas across public and private lands.

Four goals are listed in the Local Biodiversity Strategy:

- Goal 1: Prevent the further loss of Local Natural Areas. This goal aims to retain at least 4000 hectares of Local Natural Areas in the Shire.
- Goal 2: Protect and manage a portion of each basic type of vegetation and ecosystem typical of the Shire. Approximately 1690 hectares of Local Natural Area would be protected to meet this goal.
- Goal 3: Protect specific ecological features and processes including rare species, threatened ecological communities, wetland vegetation and ecological linkages throughout the Shire.
- Goal 4: Manage and restore Local Natural Areas and revegetate new areas to increase native fauna habitat.

In order to help achieve the above goals, the Strategy suggests that incentives are provided to private landowners to help encourage conservation and management of natural areas on private property. This is the precursor to the Biodiversity Incentives Strategy (below).

IMPLICATIONS

While biodiversity conservation does not form a significant part of the Rural Strategy, it is essential that the Strategy refers to and complements the goals of the Local Biodiversity Strategy and acknowledges the importance of conservation and management of local natural areas. This consistency will make it easier for integration into an overall Local Planning Strategy and for Shire implementation.

6.10 BIODIVERSITY INCENTIVES STRATEGY CONSERVATION ON PRIVATE PROPERTY 2010

The Biodiversity Incentives Strategy was prepared to guide the implementation of the incentives process first mentioned in the Shire’s 1994 Rural Strategy and earmarked in the Local Biodiversity Strategy. The incentives include a biodiversity stewardship program, a grants scheme and rates relief provided by the Shire for lots zoned Conservation and managed by a management plan.

The Strategy is designed to achieve goals 2, 3 and 4 of the Shire's Local Biodiversity Strategy (Ironbark, 2008). These goals relate to the protection and management of natural areas as many of the Shire's natural areas are small and are surrounded by farmland, rural residential or urban development. In line with its Local Biodiversity Strategy (LBS), the focus of incentives should be the management, restoration and monitoring including self-monitoring of natural areas in preference to the revegetation of cleared or degraded lands.

Specifically this Incentives Strategy is designed to:

- Assist owners of high priority sites to plan and undertake on-ground management. High priority sites are defined as those meeting one or more targets of the Local Biodiversity Strategy.
- Assist other landowners who are willing to undertake conservation management and need support.

The Strategy provides that once land is zoned Conservation, it is eligible to receive incentives which includes development and subdivision potential and a 50% discount on the general rural rate. The Shire's TPS No. 2 is consistent with the Biodiversity Incentives Strategy.

It is recommended that the Shire should continue rate relief for Conservation zoned properties with a system in place to check compliance with adequate management regimes. Where further Conservation Zoned lots or Conservation Covenanted lands are created through the subdivision process, the Shire could partner with the Landcare, National Trust and/or Department of Environment and Conservation to deliver collaboratively the Stewardship or Healthy Habitats Program.

IMPLICATIONS

The Biodiversity Incentives Strategy provides for the rezoning and subdivision of rural lots for conservation purposes while leaving a balance lot for agricultural use. This places the new lot into the Conservation zone. This process was first alluded to in the 1994 Rural Strategy and is now addressed in the Biodiversity Incentives Strategy.

It is essential that the information relating to conservation of local natural areas in the Rural Strategy is consistent with the Biodiversity Incentives Strategy. Therefore, the Rural Strategy refers to the guidelines and processes in the Biodiversity Incentives Strategy for rezoning and creation of conservation lots.

6.11 LOCAL PLANNING POLICY

The Shire has numerous Local Planning Policies to help guide development and land use. The policies of relevance to the Rural Strategy are discussed below.

DRAFT SHIRE PLANNING FRAMEWORK NO. 1 (2011)

This policy aims to provide general overview of all the planning instruments applicable to planning decision making at the Shire and how each strategy and policy fits into the process. This document also aims to clear any ambiguity with the purpose and roles of each relevant strategy and policy.

The objectives of this policy are to:

- Provide a framework for local planning decisions in Serpentine Jarrahdale Shire

- Centralizing all the instruments relevant to land use planning proposals and decisions in the Shire.

IMPLICATIONS

The policy enlists the Rural Strategy as a main document providing a basis for future scheme amendments, structure plans and planning decisions. It is also on par and should remain consistent with the Local Biodiversity Strategy.

REVEGETATION NO. 4 (2010)

This policy applies to all strategic and statutory planning proposals that facilitate subdivision or development within the Shire. The objectives of LPP No. 4 are to:

- Raise awareness of the importance of revegetation of land as a relevant planning consideration when assessing planning proposals
- Clearly outline Council's expectations for revegetation using native, local endemic flora
- Encourage the use of local native flora for revegetation to meet the purpose of this policy
- Provide a guide to meeting the Shire's planning framework provisions relating to sustainable land use.

This policy sets the information which should be addressed in a revegetation plan prepared for a proposed development application in the Shire. It also contains guidance on how revegetation activities can be implemented on ground including site preparation, planting, vegetation protection and maintenance and completion criteria.

IMPLICATIONS

LPP No. 4 contains important information to assist landowners and developers who need to carry out revegetation to support a planning proposal. The information in the policy is at a much greater level of detail than is required for the Rural Strategy. This policy should be referred to when planning application are prepared and submitted.

LANDSCAPE PROTECTION NO. 8 (2002)

The Local Planning Policy No.8 – Landscape Protection provides for the continued use and development of land but introduces important requirements and controls on development to ensure a high standard of visual appearance sympathetic to the qualities of the landscape. It applies to the Landscape Protection Policy Area depicted in the policy and is based on the area defined in the 1994 Rural Strategy.

The objectives of this policy are:

- To preserve the amenity deriving from the scenic value of the Darling Scarp
- To maintain the integrity of landscapes within the Landscape Protection Area
- To protect and enhance the landscape, scenic and townscape values through control over design, building materials and siting of development and land uses rather than prohibition of development and land use
- To maintain the integrity of landscapes in the line of sight view corridor along identified scenic routes in the Shire, including but not limited to South West Highway, Nettleton Road, Jarrahdale Road, Admiral Road, Kingsbury Drive and both the North-South and East-West Railway lines and natural water courses

- To provide developers and landowners with a statement describing the requirements for the subdivision and development within the Landscape Protection Area.

The policy outlines the details which should be included in a planning application for land which lies within the Landscape Protection Policy Area.

IMPLICATIONS

LPP No. 8 is based on the Landscape Protection Policy Area depicted in the 1994 Rural Strategy (which also included subdivision and development provisions for this area). Therefore, this LPP is already closely referred to in the Strategy. Applicants should refer to the LPP for detailed information regarding landscape protection.

MANAGEMENT PLANS NO. 21 (2009)

LPP No. 21 is to be used wherever it is possible to address sustainability principles through comprehensive planning in any part of the Serpentine Jarrahdale Shire. In relation to proposed development on private land, the policy is applicable when the land has important environmental, conservation or biodiversity values. It may be required to be prepared in the following situations:

- During the preparation of Detailed Area Plans, Structure Plans or Planning Development Applications
- As a condition of subdivision or development to cover establishment, maintenance and monitoring for the required maintenance period.

The objectives of this policy are to achieve:

- Recognition of management plans as a relevant local government planning tool
- Consideration of management plans in a range of statutory decision making processes
- Clarity in Council's expectations for the consistent preparation of comprehensive management plans, ensuring that relevant matters are integrated and addressed
- Integrated best practice management by the Shire, through a statutory planning requirement for the preparation and implementation of management plans
- Sustainable development with a low maintenance, clean, safe, accessible, quality environment including natural areas
- Quality parklands, gardens, lawns, playgrounds and Aboriginal and cultural heritage areas
- Provision, maintenance and improvement of recreation and tourism opportunities
- Protection of life, property and conservation values from fire, flood or other threat, in collaboration with other agencies.

IMPLICATIONS

The requirement to prepare Management Plans is particularly important in rural areas where subdivision or development is proposed. Some rural areas of the Shire are also identified as having important environment features and areas worthy of conservation or rehabilitation. The policy is also closely related to LPP No. 4 relating to revegetation and

both should be referred to in order to result in better environmental outcomes. The information in the policy is at a much greater level of detail than is required for the Rural Strategy but should be referred to when planning application are prepared and submitted.

CLEARANCE OF CONDITIONS OF SUBDIVISION NO. 18 (2004)

The purpose of LPP No. 18 is to clarify subdividers' responsibilities in seeking clearances for conditions of approval under the control of the Shire of Serpentine-Jarrahdale which will assist subdividers in obtaining a prompt response to requests for clearances.

The policy provides guidance on the type of information required by the Shire to assist with their decision. This includes any relevant plans, evidence that a bond has been paid (if required) and other supporting information to describe the works undertaken.

IMPLICATIONS

The elements of the policy which are applicable to the Rural Strategy include the guidance in relation to environmental conditions. The policy states that the information needed includes management plans and evidence that works have commenced on the property. These are used to guide the Shire when making a decision about whether to clear a condition of subdivision.

BIODIVERSITY PLANNING NO. 26 (2009)

This policy recognises the extent of vegetation clearing that has occurred in the Shire to date, particularly over private land. It aims to ensure that consideration of the Shire's biodiversity is taken into account in the statutory decision-making process. The policy outlines the circumstances where biodiversity should be taken into account in the planning process including rezoning applications, structure plans, detailed area plans, subdivision applications, development applications, subdivision guide plans, clearing permits and public works applications. The Council is encouraged to refer to the Local Biodiversity Targets outlined in the Local Biodiversity Strategy prepared in 2008.

The policy also includes some guidance on the type of information which can be provided to Council and provides criteria for the decision-making process.

The policy objectives are as follows:

- To recognise biodiversity conservation as a relevant planning consideration in statutory decision-making processes
- To contribute towards the biodiversity conservation goals and targets in the Shire's local biodiversity strategy and local planning strategy
- To protect natural areas and maintain the values and ecosystem services of these areas for the long-term
- To encourage proponents to formally protect natural areas as part of their development proposals
- To ensure that natural areas are not negatively impacted by development, and where this is unavoidable, to ensure that the damage is made good by some type of replacement plants or area
- To ensure the protection, restoration or management of a natural area, or the revegetation of other areas, to increase native fauna habitat.

IMPLICATIONS

The Local Biodiversity Strategy was finalised in 2008 (after the 2003 review) and therefore the content of the Strategy and LPP No. 26 have been incorporated into the Rural Strategy where relevant.

RURAL WORKERS DWELLINGS DRAFT NO.46 (2010)

This purpose of this policy is to guide the use and development of land for a rural workers dwelling. However, the Shire recognises that the development of additional dwellings can create the desire for a parcel of land in a rural zone to be subdivided. The resultant subdivision and downsizing of a contiguous farm unit can result in related infrastructure problems. The Shire does not support the construction of a second dwelling for the purposes of an incidental rural 'hobby' activity for rural lifestyle purposes.

The policy indicates that a rural workers dwelling should be associated with a genuine approved rural use, provide accommodation for workers employed for agricultural activities on a particular landholding, generally be clustered together to avoid future subdivision pressure and share services with the primary dwelling where possible.

The objectives of this Policy are to:

- Support rural enterprises within the Shire
- Provide direction on the establishment of genuine rural workers dwellings
- Ensure that rural workers dwellings are provided, constructed and located in such a way so as to minimise their impact on the surrounding amenity and landscape
- Ensure rural workers dwellings are associated with an existing and approved rural use
- Limit the opportunity for a rural workers dwelling to establish and facilitate land subdivision
- Ensure that the rural workers dwelling is incidental to a predominate rural use.

The policy contains a description of the requirements and criteria which need to be met in an application for a rural workers dwelling and the types of supporting information which should be provided to assist with the Council's assessment.

IMPLICATIONS

The approval of rural workers dwellings on rural properties is a relatively minor matter to be taken into consideration in a strategic planning document such as the Rural Strategy, however it is important to acknowledge the policy as it still has relevance to the rural area.

6.12 EPA GUIDANCE STATEMENTS

GUIDANCE STATEMENT 33 – ENVIRONMENTAL GUIDANCE FOR PLANNING AND DEVELOPMENT

This guidance paper provides an overview of information to assist proponents and decision making authorities in considering environmental management as part of the planning and development process. It also contains guidance for the Environmental Impact Assessment (EIA) process which is required for some development proposals under Part IV of the Environmental Protection Act 1986.

The guidance statement contains detailed information on the environment of WA, the significance of WA's environmental features, EIA requirements, management of pollution and social heritage. It also provides advice on how to consider WA's important environmental characteristics when making broad scale and local area planning decisions

IMPLICATIONS

Guidance Statement 33 contains invaluable information to assist decision makers when considering planning proposals and how they might impact on the environment. This is also relevant for the rural areas of the Shire. Therefore, the guidance statement can be applied to any future planning decision concerning rural areas of the Shire.

6.13 ENVIRONMENTAL PROTECTION POLICIES

ENVIRONMENTAL PROTECTION (PEEL HARVEY ESTUARY) POLICY 1992

The purpose of this Environmental Protection Policy (EPP) is to set out environmental quality objectives for the Estuary (which, if achieved, will rehabilitate the Estuary and protect it from further degradation) and to outline how these objectives are to be achieved. The Policy states that the purpose for protecting the estuary is for beneficial uses it provides (further research, to provide habitat for native fauna, to support fisheries and as a focus for residential development) and because of past degradation such as nutrient enrichment and algal blooms which have a negative effect on these uses.

The environmental quality objective is stated as a medium mass of total phosphorus flowing into the estuary is less than 75 tonnes. The Policy then proposes the following as a means to help achieve and maintain the environmental quality objective:

- Implementation of the policy by local authorities through their town planning schemes and by the state government through the Metropolitan Region Scheme
- Appropriate management of land in the policy area
- Government support to landholders in the policy area (such as the provision of advice)
- Ensure that decisions in the policy area are compatible with the achievement and maintenance of the environmental quality objectives.

IMPLICATIONS

As is clearly stated in the EPP, it is important that planning reports and policies relating to the policy area are compatible with the achievement and maintenance of the environmental quality objectives. These objectives largely relate to the volume of phosphorus entering the estuary from the rivers and catchment areas. The Rural Strategy includes reference to this EPP in the objectives for the Intensive Agriculture Policy Overlay.

ENVIRONMENTAL PROTECTION (SWAN COASTAL PLAIN LAKES) POLICY 1991

The purpose of this EPP is to protect the environmental values of lakes on the Swan Coastal Plain. It explains that the basis for which lakes are to be protected are because of the following:

- They provide beneficial uses (such as a refuge for endangered fauna, social and heritage values, aesthetic values and as a study resource)
- due to the past destruction of lakes on the plain
- because of the significant causes of destruction (such as filling, draining, discharge of effluent)

The following activities are listed in the Policy as a 'controlled activity' within wetlands and lakes:

- Filling
- Excavation
- Discharge of effluent
- Alteration of the drainage system.

IMPLICATIONS

A majority of the western half of the Shire is located on the Swan Coastal Plain and therefore covered by this policy. Wetlands and lakes within these areas of the Shire have been significantly affected and degraded since European settlement due to vegetation clearing, filling of wetlands, alteration of drainage pattern, invasion of weeds and feral animals etc.

Conservation of natural areas, including wetlands in the rural areas of the Shire is addressed in the current Rural Strategy and should continue to be integrated into the review which would ensure consistency with this policy. This is also addressed in the Biodiversity Incentives Strategy which includes conservation and management of wetlands as an appropriate action to attract incentives. Future development or intensive land uses should not adversely impact on the conservation or health of wetlands in the Shire. This might require appropriate mapping and studies to identify wetlands in the Shire and to help protect them from future development.

6.14 WATER QUALITY PROTECTION NOTES

The Department of Water has prepared several Water Quality Protection Notes that provide guidance on land use activities and associated water protection measures. While they are guidance statements only, they provide useful information on best management practices associated with various land uses.

Water Quality Protection Notes of relevance to the Rural Strategy include:

- Agriculture – dryland crops near sensitive water resources
- Community drinking water sources - protection and management
- Extractive industries within Public Drinking Water Source Areas
- Floriculture activities near sensitive water resources
- Industrial sites near sensitive environments – establishment and operation
- Irrigation with nutrient rich wastewater
- Land filling with inert materials
- Land use planning in Public Drinking Water Source Areas.

IMPLICATIONS

The Water Quality Protection Notes could impact on the acceptable type of agricultural activities proposed within any new developments. Applications will most likely need to address hydrological issues such as water availability, impacts on surface water and groundwater, soil leaching, nutrient use, nutrient leaching, impacts on Public Drinking Water Source Areas (if present), irrigation and other factors.

6.15 JANDAKOT DRAINAGE AND WATER MANAGEMENT PLAN 2009

The Shire of Serpentine Jarrahdale is located within boundary of the Jandakot Drainage and Water Management Plan. The aim for this document is to provide guidance in accordance to subdivision and development on the Jandakot area whilst maintaining adequate protection of underground water pollution control area. The plan is to particularly assist developers in regards to storm water management issues. The aspects which the management plan covers include:

- Protection of significant environmental assets within the structure plan area, including meeting their water requirements, managing potential impacts from development and protecting their cultural value
- Alternative water supply options, opportunities for conservation and demand
- Management measures, and wastewater management surface runoff, including both peak event (flood) management and the application of water sensitive urban design principles to frequent events
- Groundwater, including the impact of urbanisation, variation in climate, installation of drainage to manage groundwater levels, potential impacts on the environment and the potential to use groundwater as a resource
- Water quality management, which includes source control of pollution inputs by catchment management, acid sulfate soil management, control of contaminated discharges from industrial areas and management of nutrient exports from surface runoff and groundwater through structural measures.

IMPLICATIONS

The Jandakot Drainage and Water Management Plan was considered during the revision of the Rural Strategy and consideration of the areas covered by this plan to make sure that the proposed zones and objectives are consistent in this plan. This plan should be referred to when development application area prepared and during consideration by the Shire. A portion of the land included in this plan is covered by the Oakford MRS Amendment Area and excluded from the Strategy.

6.16 AGRICULTURE FUTURES – POTENTIAL RURAL LAND USES ON THE PALUSPLAIN

The Resources Management Technical Report Agriculture Futures – Potential Rural Land Uses on the Palusplain was prepared by the Department of Agriculture and Food in September 2010. The purpose of the report is to identify agricultural land use options/opportunities

within the Shire of Serpentine Jarrahdale and Shire of Murray Shires, with particular focus on the Palusplain wetland section. The report was prepared to contribute to the Natural Resource Management Plan for the region and guide regional and local planning strategy development. Therefore, this report will provide extremely valuable and important technical advice for the Rural Strategy review.

The report includes discussion on the following:

- Environmental values and features of the Palusplain
- Agricultural land uses and impacts
- Impacts of residential, rural residential and rural small holdings
- The nutrient export status of different land uses
- The status and potential of predominant agricultural uses
- The potential mechanisms to reduce nutrient export.

Key findings from the report are:

- The importance of retaining large lots to:
 - maintain opportunities for new large scale agricultural enterprises
 - maintain land prices at agricultural market levels
 - reduce likelihood of lifestyle ownership
 - maintain agricultural options into the future if market signals change and preserve future land use options.
- The lack of a soil amendment to 'fix' phosphorus is the key factor influencing agricultural development. Recognised phosphorus fixing soil amendments such as 'red mud' and bio-solids need to be approved for general use within the catchment.
- Research is required to determine the relative benefits of catchment approaches to reduce nutrient export. This would include perennial pastures, revegetation, stock exclusion and drainage management to encourage retention of water in the landscape to maximise nutrient use/retention. As revegetation may not reduce nutrient export as soluble nutrients bypass the physical filtering functions of the riparian zone surface vegetation, the strategies in SPP 2.1 may need revising.
- Provision for monitoring nutrient export is required as soil amendments will need to be replaced regularly, possibly on a 20 year cycle.
- Closed agricultural systems, e.g. poultry and hydroponic/glasshouse horticultural systems, need to be encouraged to reduce nutrient export.
- Development nodes on locally higher ground surrounded by wetlands may be suitable for closed loop agricultural systems and for niche production.

The summary from the report is:

The Palusplain supports a strong, diversified and sustainable economy, as a food bowl for Perth, set in an environment that maximises biodiversity and nutrient retention and supported by clear, consistent integrated governance.

IMPLICATIONS

This Technical Report prepared by DAFWA provides a considerable amount of background information and advice which have assisted considerably with the review of the Shire's Rural Strategy. In particular, the discussion on the agricultural land uses in the Shire and the impact on the environmental features of the Palusplain. This report should be referred to during a full review of the Rural Strategy or during the preparation of a Local Planning Strategy. The information in the report can also be used by applicants when preparing development proposals and by the Shire when considering applications.

7. POPULATION PROJECTIONS AND HOUSING DEMAND



7.1 INTRODUCTION

The population projections and housing demand was determined based on information from the Australian Bureau of Statistics Census, WA Tomorrow (DoP, 2012) and Forecast ID (<http://forecast2.id.com.au/Default.aspx?id=323&pg=5180>).

7.2 POPULATION PROJECTIONS

According to WA Tomorrow, the current population of the Shire is 20,000 people. The projections for the Shire using the medium simulation rate (Band C) are displayed in the table below.

LENGTH OF TIME	YEAR	NUMBER OF PEOPLE
5 years	2018	27,400
10 years	2023	34,200
15 years	2026	38,300

Source: WA Tomorrow (DoP, 2012)

According to Forecast ID, the population projections are as follows:

LENGTH OF TIME	YEAR	NUMBER OF PEOPLE
3 years	2016	26,558
8 years	2021	34,618
13 years	2026	42,099
18 years	2031	49,497

Source: Forecast ID

Average annual change from Forecast ID (Shire-wide)

- 5.38%

Average annual change from Forecast ID (rural areas only)

- 2.45%

As can be seen from the above table, the population projections from Forecast ID are slightly higher than the projections from WA Tomorrow.

For the purposes of this assessment the Shire will utilise information from Forecast ID.

18 Year (2031) Population Projection:

- Additional 27,996 persons
- Total approx. 49,500

7.3 DEMAND PROPORTION FOR RURAL AND URBAN LAND

It is also important to consider the demand proportion between the urban and rural areas of the Shire.

Urban / Rural Growth Apportionment: (1/1/11 – 1/1/13)

- 813 dwellings constructed in both the rural and urban areas
- 738 dwellings constructed within the Byford urban area
- 75 dwellings constructed outside of the Byford urban area (rural areas)

These figures were sourced utilising the Shire's building records system between the calendar years of 2011 – 2013. Based on the analysis above, approximately 9% of the Shire's growth is attributed to rural living subdivision in some form.

Furthermore, approximately 400 rural living lots with lot sizes between 4000m² – 5ha are at some stage to be developed for urban or industrial purposes. An approximate breakdown of the number of lots is identified below.

Rural Living Lots Ceased Through Urbanisation / Industrialisation:

- Byford: 98
- Mundijong-Whitby: 147
- Land between Byford and Mundijong: 130
- West Mundijong Industrial Area: 16
- Oakford/Oldbury: 26

7.4 DEMAND ANALYSIS

Average household size according to Forecast ID:

- 2.94 people/dwelling – 2016
- 2.94 people/dwelling – 2021
- 2.92 people/dwelling – 2026
- 2.98 people/dwelling – 2031

Utilising the above data and assumptions below the following conclusion can be drawn on the general demand for rural living subdivision within the Shire.

Assumptions:

- 2.9 persons per dwelling
- Addition population of approximately 28,000 persons by 2031
- 9% of the growth is attributed to rural living subdivision

Calculation:

28,000 persons / 2.9 persons per dwelling = 9655 required dwellings.

0.09 x 9655 dwellings = 868.95

- Approximately 870 new rural lots may be required based on a 9% assumption.
- Approximately 400 rural living lots will be ceased through urban and industrial development.

- Approximately 1270 new rural living lots may be required to service forecasted rural living demand.

8. CHANGES SINCE THE PREVIOUS REVIEW



8.1 MARKET DEMAND AND ECONOMIC ASSESSMENT

INTRODUCTION

A Market and Economic Assessment Report was prepared in early 2012¹. The report focuses on rural land demand and the economics of alternative rural land uses. The need for the assessment was identified in the Rural Strategy Project Plan which identified three fundamental changes occurring in the Shire: town urban areas are expanding; industrial areas are increasing and rural land is being changed from broadacre dairy and cattle grazing to smaller lot holdings. Many Shire residents want to see the rural land protected and utilised for its most appropriate and productive pursuits.

In terms of the market demand assessment, the purpose was to identify the changes in the property market and to determine the demand for larger agricultural lots, rural-living development, stable and Farmlet lots. It was anticipated that this would provide guidance as to the amount of land that may need to be identified for these purposes.

The purpose of the economic assessment was to determine where commercially viable traditional agricultural land is located and where it is not viable. The assessment was also required to determine whether alternative agricultural uses can be viable on smaller parcels of land.

STUDY AREA

This assessment focused on rural land demand and the economics of alternative rural land uses. The study area was generally limited to the Shire of Serpentine-Jarrahdale and included the towns of Jarrahdale and Keysbrook. It did not include State Forest areas as these are managed by the government Department of Environment and Conservation.

The study brief included identification of the demand for, and location of:

- Agricultural / Rural Land (40ha+)
- Farmlet Style (4ha+)
- Rural life style type developments (1ha – 4ha)
- Light Industry
- General Industry
- Commercial vehicle parking;
- Steel / Timber / Sea Container storage
- Raw Materials
- Any other areas not mentioned.

RELATION TO THE RURAL STRATEGY

The Market and Economic Assessment Report considered the outcomes of the Rural Strategy Review by Land Insights in 2012. It took into consideration the following main outcomes:

- Rural Living B areas (2 to 4 ha) are not considered a viable option for the Shire due to the costs to service, the waste and inefficiency of land, and the increase in land management problems
- Rural Living A areas (0.4 to 4ha) were identified to cater for smaller lot sizes

- Up to 1 hectare was considered a better size to provide privacy and space, but less likely to be used as a hobby farm which could lead to land management issues at this small size.
- Larger lot sizes ranging from 4-40 ha were proposed in a Farmlet Policy Area to cater for hobby farms.
- Feedback from consultation indicates that Rural Living A lots have been less successful from a land management point of view and larger lots which can be used for hobby farms or other purposes tend to be more successful. However, a variety of lot sizes was considered desirable ranging from 0.4 to 2ha.
- Farmlet owners should not be permitted to undertake intensive horticulture or intensive animal rearing as these land uses generally lead to environmental degradation.
- The Rural Policy Area is intended to maintain the integrity of the Shire's rural and agricultural character and a majority is located on the Bassendean Dune and Sand plain land systems which consist of sandy soils with low productivity and low lying areas prone to waterlogging.
- Subdivision of new lots would not be supported below 40 ha.
- Consultation and research undertaken as part of this project has indicated that this policy area doesn't necessarily account for the variety of land uses within this area and therefore can restrict some productive uses.
- The minimum lot size of 40ha in the Rural Policy Area is considered to be out dated and feedback from consultation has indicated that different rural land uses can take place on smaller lot sizes which could lead to better land affordability and management and therefore more productivity.
- Advice from the Department of Agriculture and Food suggest that some larger lots should remain to facilitate larger agricultural operations if the need arises.
- The Agricultural Policy Area was identified in the original 1994 Rural Strategy to maintain the current standards and practise of agricultural use and development.
- The relevance of the Agricultural Protection Policy Area was questioned during the consultation undertaken as part of the Rural Strategy Review. Some landowners stated that their land is within this policy area, yet has a low land capability, low productivity and not economically viable.
- The Residential and Stable Policy Area was included in the Rural Strategy as a recommendation in the 2003 review to provide a zone around the Byford Trotting Complex that permitted intense equine activities.

SHIRE HISTORY

Following European colonisation, the first development activities in the area were timber related with sandalwood recovery opening up the area followed by timber felling and milling at Jarrahdale. Farms spread out around Jarrahdale and flour mills were established. A tramway was built to Rockingham to take the jarrah timber for shipment. Many timber mills opened in the area and the timber industry benefited from the boom in the 1890's following the discovery of gold.

¹Rural Strategy – Report for the Shire of Serpentine-Jarrahdale, May 2012. Prepared by Economics Consulting Services. A complete copy of the report is available by contacting the Shire.

The government declared an agricultural area at Serpentine in 1891 and an associated townsite in 1893. Farming spread out around the town mostly focused on cattle and dairy.

Byford was established as a town around 1910 to service the State Brickworks built on a shale deposit in the Darling Scarp near the town. Pastoral land surrounding the town initially supported sheep and then diversified to fruits, cattle, dairy and equine pursuits.

Mundijong was established at the junction of the Rockingham-Jarrahdale timber rail and the government rail from Perth to Bunbury. A town grew up around the junction, and a timber depot which included a large mill was constructed.

The timber and farming enterprises and brickworks did not support a large workforce and the Shire population was still not much more than 1,000 people at the turn of the twentieth century, some 70 years after the Swan River colony was established.

ECONOMIC CONSIDERATIONS

INTRODUCTION

Land use in any area is a function of demand factors and planning constraints. Demand factors will include the aspirations of people seeking to use the land for productive purposes which can be broadly defined to include residential purposes. Agricultural demand will be driven by climate, land capability, market access and access to labour. Residential demand will be driven by proximity to employment and services and natural land features.

The eastern half is dominated by conservation areas, timber and water catchment. There are some small rural pockets but most land is reserved for other purposes. The central spine has the small towns and urban areas and the western area is largely agricultural with a small population.

POPULATION GROWTH

The population has expanded steadily since 1911 to an estimated 21,500 in 2012. The growth rate over this 101 years averaged 2.7% a year. The growth has been driven over the last two decades by an increase in rural-based lifestyles within commuting distance of employment in Perth. More recent developments have seen relatively affordable housing for young and established families from southern Perth. In the past three years, residential development has increased dramatically, with a much larger share of 'conventional' fringe residential development².

The Shire role as a bedroom suburb is increasing. At the 2006 census, over half of the workforce worked outside the Shire and this proportion is likely to increase as the traditional agriculture activities decline in relative importance.

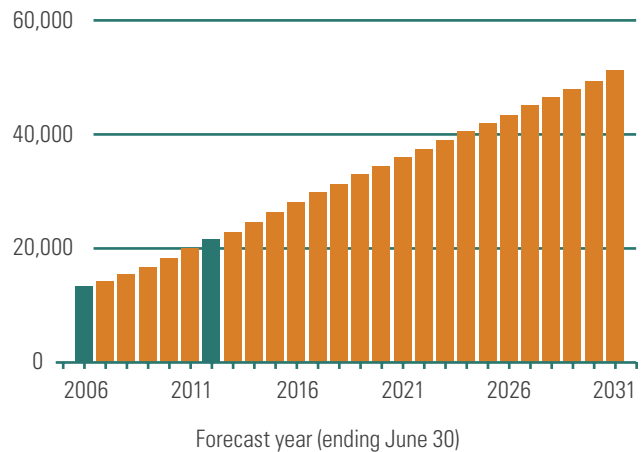
The population expansion is expected to continue as the stocks of residential land in adjacent Gosnells are depleted and as housing costs in Perth remain high. The majority of people moving to Serpentine Jarrahdale Shire are expected to come from established areas in southern-eastern Perth.

Effectively, population growth has been driven by the expansion of the urban frontier.

Future growth is forecast to accelerate as this urban fringe draws

closer. Growth over the next two decades to 2031 is forecast to be nearly double that of the last twenty years at 4.7% a year. This will see the population more than double in the next twenty years to over 50,000 people by 2031 (Graph 1).

GRAPH 1: FORECAST POPULATION



Source: Forecast.id

This population growth will require an additional 13,150 dwellings assuming an average household size similar to the metropolitan average of 2.3.

There is no reason to believe that this strong population growth will not continue beyond the 20 year forecast period. The South West corridor is a key growth area for metropolitan Perth and the Shire ranges in distance from 25 to 55 Kilometres distance from central Perth. Even if growth slows to the metropolitan average in recent years of 2.5% a year, the Shire population would expand to 80,000 by 2050 and 100,000 by 2060. Were growth to average 6% as Wanneroo has seen, the population will reach 100,000 in only 30 years.

The expanding metropolitan area and the associated demand for housing mean that there will be strong demand for residential accommodation in some form in the Shire for the long term foreseeable future. The form this accommodation takes and the timing will depend on Shire and State government planning policies and the nature of the demand. The following section looks at the demand for rural residential land.

RURAL RESIDENTIAL LAND DEMAND

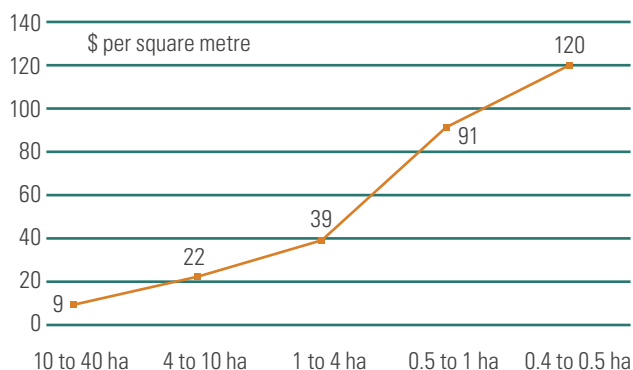
Shire planning policies and restrictions from agencies (such as Water Corporation and Western Power etc.) determine lot sizes in all urban and rural areas. Part of the Shire intent is to retain the rural environment that the local residents have become used to or moved there to enjoy. In theory, people will purchase the lot sizes that they prefer within the range of available options. The price they pay should reflect such preferences.

An analysis of house sales on larger sized lots (over 4,000 square metres) for Serpentine-Jarrahdale covering the period from January

² Website: forecast2.id.com.au/default.aspx?id=323&pg=5000

2011 to March 2012 found that the price per square metre continued to increase as lot sizes fell (Graph 2). This was based on sales of 138 properties.

GRAPH 2: HOUSE AND LAND SALES (\$/SQUARE METRE)



Source: Landgate data

It is important to note that this data includes the sale of houses and there is potential for this to distort results as people were primarily buying a house with land attached.

To isolate land prices, a broader analysis was completed on lot sales in three Shires with rural precincts on the fringe of the metropolitan area – Serpentine-Jarrahdale, Armadale and Wanneroo. These lots were classified as rural residential and not farming lots.

Vacant land sale data was extracted from January 2010 to March 2012 with lot sizes restricted to the range 4,000 square metres (0.4ha) to 40ha. The sample included 224 sales over the 27 month period (Table 8.1).

TABLE 8.1: RURAL RESIDENTIAL VACANT LAND SALES, JANUARY 2010 TO MARCH 2012

SHIRE	NUMBER SALES	0.4HA -0.5HA	0.5HA -1HA	1HA -4HA	4HA PLUS
Serpentine-Jarrahdale	82	38	9	31	4
Armadale	52	36		16	
Wanneroo	90	7	12	65	7
Total	224	81	21	112	11

Source: Landgate data

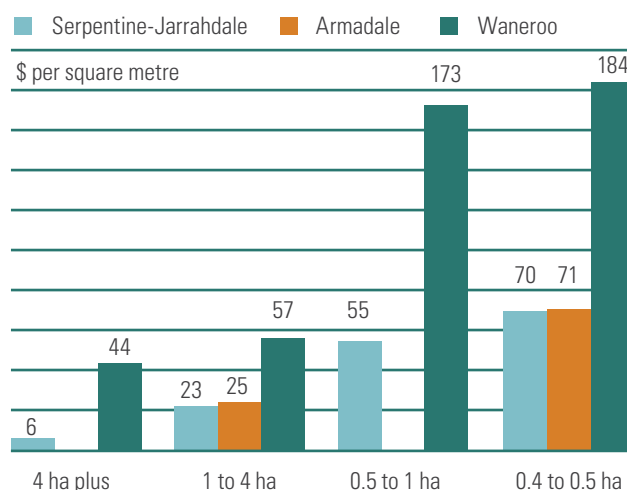
Shire planning policies influence the lot size mix. For example, there were virtually no sales in Armadale of lots above 4 hectares and no sales between 0.5 and 1 ha. In Wanneroo most sales were in the 1 to 4ha range with very few under 0.5ha. Serpentine-Jarrahdale by

comparison had most sales (46%) in the 0.4 to 0.5ha range followed by the 1 to 4ha range.

Sale prices followed a consistent pattern with the price per square metre increasing as lot areas became smaller (Graph 3). Sale values in Wanneroo were consistently above Armadale and Serpentine-Jarrahdale but the important observation for this study is that prices per square metre increased in all Shires as the lot size fell.

Land sale prices per square metre increased significantly as lot sizes fell from an average across all Shires of \$30 for lots over 4ha to over \$80 for lots in the range 0.4 to 0.5ha. Although the sample numbers are low, the broad indication is that people were willing to pay more per square metre in moving from a lot above 5,000 square metres to a lot in the range 4,000 to 5,000 square metres.

GRAPH 3: RURAL RESIDENTIAL VACANT LAND SALES, JANUARY 2010 TO MARCH 2012



Source: Landgate data

Although this study is limited in scope and data acquisition, the message is that purchasers of vacant rural residential lots are willing to pay more per unit area as the lot size falls. This is clearly the driving message behind property owners and developers aspirations to subdivide down to the smallest area that planning bylaws will allow. The willingness of buyers to pay more per square metre for smaller areas means there will be constant developer and landowner pressure to subdivide areas to smaller sizes.

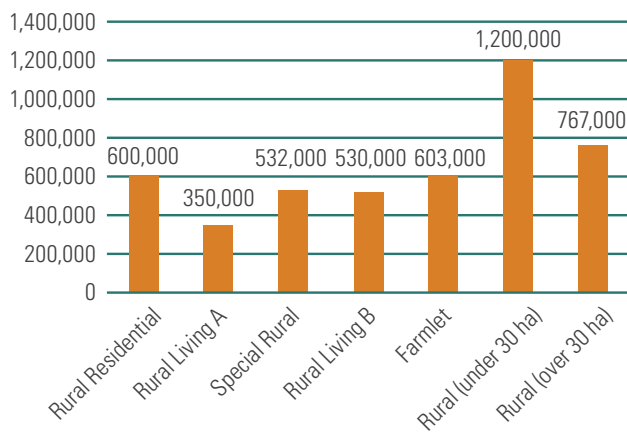
The population pressures and the buying preferences mean that there will be strong demand for smaller and smaller lot sizes until most land in the Shire is urban in character. This is obvious when the history of market gardens in Perth is used as an example. Market gardens in the early colony were established in Northbridge and South Perth. They moved to North Perth and then Gwelup. In the northern half of the city they shifted out to Karrinyup and then Wanneroo as the city expanded. Many large properties have now relocated to Gingin. A similar pattern occurred in southern suburbs with horticulture properties shifting to Spearwood and now Myalup.

The constraints on continuing subdivision will be set by the planning rules which are briefly canvassed in the next chapter.

RURAL RESIDENTIAL LOTS

Analysis of sales for land designated as Rural in zoning from January 2010 to March 2012 reveals quite distinct value distinctions between zoned categories (Graph 4). Buyers paid considerably more (30%) for a Rural zoned lot than they did for the next category of Farmlets and Rural Residential lots (Figure 4). Rural zoned land makes up half of the Shire and is intended to be restricted to lots of more than 40ha in area. In practice, many sales related to smaller lots zoned as Rural. The sales were separated into two size ranges for this study. The smaller Rural lots in the range 0.5 to 30ha had the highest average price of all categories.

GRAPH 4: RURAL RESIDENTIAL VACANT LAND SALES, JANUARY 2010 TO MARCH 2012 (\$ PER LOT)



Source: Landgate data

Farmlets, Rural Residential, Special Rural and Rural Living B saw average prices within a 12% band of \$530,000 to \$600,000. This was despite significant differences in average area ranging from 0.3ha for Rural Residential to 4.7ha for Farmlets. Rural Residential lots all lie in the special equine area at Byford and buyers were clearly willing to pay a premium for the generally smaller areas than the other zoned areas.

Rural Living A lots received the lowest prices. Part of the explanation is almost certainly location factors although there are areas zoned to Living A and Living B in similar localities (Table 8.2). Part of the explanation appears to reflect lot size with the average for Living A being 0.7ha and Living B 2ha in area. Buyers were clearly willing to pay more for the larger areas in Living B.

TABLE 8.2: RURAL RESIDENTIAL VACANT LAND SALES, JANUARY 2010 TO MARCH 2012

ZONE	NUMBER LOTS	SIZE RANGE (HA)	AVERAGE SIZE (HA)	LOCATION
Rural Residential	8	0.3-0.4	0.3	Byford
Rural Living A	37	0.4-2.4	0.73	Serpentine, Oakford, Byford, Darling Downs
Special Rural	15	0.8-2.5	2	Serpentine, Cardup, Oakford, Byford, Jarrahdale
Rural Living B	11	1.7-2.3	2	Serpentine, Cardup, Oakford, Darling Downs
Farmlet	7	4-6	4.7	Serpentine, Mundijong, Mardella
Rural (under 30ha)	124	0.4-25	8	Serpentine, Byford, Keysbrook, Mardella, Oakford, Hopeland, Karrakup, Darling Downs
Rural (over 40ha)	53	30-75	47	Serpentine, Byford, Keysbrook, Mardella, Oakford, Hopeland, Karrakup, Darling Downs

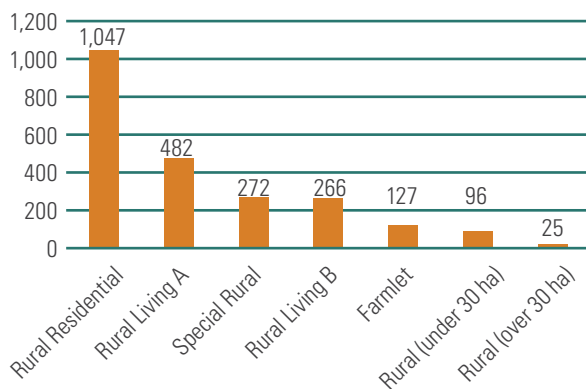
Source: Landgate data

The price paid reflects community comments in the consultation phase with Living A considered less successful from a management perspective. The high prices paid for the smaller Rural Residential lots suggest that this was not just a size characteristic.

The price paid per square metre reflects the opposite of the total price buyers paid (Graph 5). The Rural Residential lots had an average price

per unit area double that of the next zone (Rural Living A). Buyers paid the lowest unit price for the rural lots and Farmlets.

GRAPH 5: RURAL RESIDENTIAL VACANT LAND SALES, JANUARY 2010 TO MARCH 2012 (\$ PER SQUARE METRE)



FARM LAND VALUES

The Serpentine-Jarrahdale and Murray Shires have made a significant economic contribution to the State and are well placed to supply agricultural produce into Perth and Mandurah markets in the future. In the past the main agricultural commodities have been beef, dairy and some horticulture. Changes in environment, economics and regulations have seen a reduction in dairying and a predominance of beef production. There is a sheep and a beef feedlot still operating south of Mundijong. Poultry for meat production has become an important industry and there is a significant pig enterprise and value adding dairy processing factory.

ABS statistics probably underestimate the value of agricultural output as it may not include many small growers. A study commissioned by the Oakford-Oldbury Community Association to assess the practicality and sustainability of planning and promoting parts of rural Oakford and Oldbury for small lot commercial agricultural development found 38 agri-businesses. Many small lots were being used for commercial agriculture such as vegetables, vines and orchards on lots of four hectares or less (Ironbank Environmental and Sustainable Development, March 2006).

The region is favoured for horse stud and amateur equestrian activities. Rural living and lifestyle land users tend to use beef cattle to manage the land and not as their main source of income.

While agriculture is a strong economic contributor to the region, nutrient export from agricultural industries impacts on the wetlands, rivers and estuary systems. Variable groundwater quality and quantity combined with poor winter wet soils and hazard of nutrient export have restricted intensification for horticulture and dairying.

Acting against the interests of agriculture is the view by many property owners that the area represents a land bank waiting for capital growth through urban or industrial development. Broadacre agriculture in the Shire is declining as large landholdings are split up and the pressures of farming near urban areas increase. These pressures include community concerns with land management particularly run-off in this area, chemical sprays, weed control, fire control practices and machinery use. While labour is available in the urban area, wages are higher in most

other industries and agriculture struggles to compete. The employment opportunities in the nearby urban areas attract the children of farmers and provide off-farm income for those choosing to stay. Combined with land taxation and higher local government rates for any land zoned as suitable for more intense use and large area farms in this location become poor investments. The pressure is then on to subdivide them for the reasons clearly illustrated in the previous section on land values.

During the period January 2010 to March 2012 (27 months), only one property of more than 40ha was sold in Serpentine-Jarrahdale. This property was sold for a very large amount (\$7 million) well above farming values reflecting almost certainly the value for subdivision for smaller lots.

Anecdotal evidence from local farmers is that broadacre agriculture (broadly defined as over 100ha) is not an attractive enterprise in the Shire. The Department of Agriculture and Food (DAFWA) advice on the Palusplain land is that nutrient movement and runoff is a primary land management objective. While all soil based agricultural land users contribute some nutrient loads, there are uses that should be avoided on such sensitive wetland areas. Animal grazing including dairy, beef and sheep are major contributors while closed systems such as poultry have minimal direct impact.

DAFWA advises that the traditional beef cattle industry is not profitable for many landholders and local farmers advise that dairy is marginal at best. A small number of local dairies are doing well with value added processing but high labour costs and small farm sizes mean an uncertain future. It should be noted that the poultry for meat industry is successful and the equine industry is strong both as a hobby and as a racing industry.

Potentially viable agricultural enterprises are restricted to intensive land uses. It is not possible to put a minimum lot size on an intensive agriculture enterprise. Highly efficient operators may be able to make a living from as little as one hectare of cut flowers while others may struggle with an order of magnitude more than that. A key issue for land intensive activities becomes distance to adjacent properties and the impact of machinery and chemicals on neighbours. Such issues as land capability, nutrient and water management, transport requirements, buffer distances and permitted uses are more important criteria in determining lot sizes than the minimum for commercial viability. The clear preference is to retain a mix of sizes to allow choice.

OUTCOMES – MARKET DEMAND

The report concluded that land should not be set aside for broad acre agriculture. It was determined that the enterprises that might utilise such sizes are less suited near urban areas and the landowners in these industries appear to be waiting for subdivision opportunities. Some are continuing to work at what they have done all their lives but many are planning to sell out when they can.

Of interest to note, the report recommends that while some parcels of land of more than 100hectare might be justified on grounds such as management of nutrient runoff or the preservation of a rural landscape with buffer areas between clusters of urban or rural residential areas, they should not be justified on the basis of demand for agricultural land.

In terms of alternative land uses and smaller lot sizes, the report recommends that some lot sizes in the 4hectares to 100hectares are provided for intensive agriculture enterprises. Such land should be selected based on land capability and potential for nutrient runoff.

Equine activities are well suited to the region and have special needs with some wanting larger areas for training facilities and stables. Prices paid in the Byford trotting complex illustrate that many purchasers are happy with smaller lots in the Special Residential range to the lower end of the Rural Residential range.

Land management on rural residential blocks is challenging with large lot sizes. People seeking a rural residential lifestyle seek a home with enough distance from neighbours to reflect a natural existence rather than an urban experience. Lot sizes of up to 1hectare are considered to achieve this goal. The sale price data suggests that people will pay more for larger lots but pay higher unit prices for smaller lots. Lots of 4,000 and 5,000 square metres and up to 1hectare achieve high unit prices illustrating widespread consumer acceptance in this locality. However, lot sizes should also be selected taking into account land capability, service costs (including all Shire services) and environmental constraints.

OUTCOMES – ECONOMIC ASSESSMENT

In the past the main agricultural commodities have been beef, dairy and some horticulture. Changes in environment, economics and regulations have seen a reduction in dairying and a predominance of beef production. There is a sheep and a beef feedlot still operating south of Mundijong. Poultry for meat production has become an important industry and there is a significant pig enterprise and value adding dairy processing factory.

During the period January 2010 to March 2012 (27 months), only one property of more than 40hectares was sold in Serpentine-Jarrahdale.

Anecdotal evidence from local farmers is that broad acre agriculture (broadly defined as over 100hectares) is not an attractive enterprise in the Shire. DAFWA also advises that the traditional beef cattle industry is not profitable for many landholders and local farmers advise that dairy is marginal at best. A small number of local dairies are doing well with value added processing but high labour costs and small farm sizes mean an uncertain future. The poultry for meat industry is successful and the equine industry is strong both as a hobby and as a profession.

The report comments that potentially viable agricultural enterprises are restricted to intensive land uses. However, it also states that it is not possible to put a minimum lot size on an intensive agriculture enterprise. Highly efficient operators may be able to make a living from as little as one hectare of cut flowers while others may struggle with an order of magnitude more than that. A key issue for land intensive activities becomes distance to adjacent properties and the impact of machinery and chemicals on neighbours. Such issues as land capability, nutrient and water management, transport requirements, buffer distances and permitted uses are more important criteria in determining lot sizes than the minimum for commercial viability. The clear preference is to retain a mixture of sizes to allow for choice.

8.2 LAND USE AUDIT

BACKGROUND

Understanding the range of land uses throughout the Shire's rural areas is an important pre-cursor to the determination of future policy areas and overlays. In order to understand the range of land uses that are present, DAFWA kindly provided information pertaining to a desk-top analysis of land use determined by a review of aerial photography

(provided early May 2012). This information was captured in a GIS database prepared for the project, and the land uses were ground-truthed in certain areas by Land Insights in May 2012.

GIS DATABASE

The GIS database comprises 36 classifications that cover broad land use and that includes all residential/urban areas within one category.

Grazing is clearly the largest land use throughout the western side of the Shire, however there are numerous pockets of other agricultural uses. Plotted with the 1994 Rural Strategy it is apparent that development over time has generally been consistent with the policy areas within the Strategy.

It should be noted that the GIS database can be interrogated as required.

KEY POINTS FROM LAND USE AUDIT

- Land use data is generally accurate.
- The majority of zoned rural land is used for grazing – there is limited diversification occurring at a larger scale.
- Land use is general guided by the Rural Strategy land use policy areas, perhaps with the exception of any high-level agricultural uses occurring in the 'agricultural protection' area.
- The majority of the Swan Coastal Plain has been cleared. This confirms outcomes of the Shire's Biodiversity Strategy.

8.3 TOURISM IN THE SHIRE

BACKGROUND

The Shire of Serpentine-Jarrahdale Tourism Strategy was prepared in 2003. The actions proposed in this Strategy were intended to have a five year (5) timeframe. While the Strategy is a few years beyond this five year timeframe, its content is still relevant and many of the actions can still be taken on board.

Comprehensive information on tourism in the Shire is available at the new website for the SJ Business and Tourism Association. The website lists the accommodation, food outlets, attractions, trails, picnic areas, parks and markets which exist throughout the Shire. This is a very valuable resource for attracting and providing information to tourists and day-trippers.

EXISTING TOURISM LAND USES

There is no Tourist zone in the Shire's Town Planning Scheme (TPS) and no Policy Area for tourism in the 1994 Rural Strategy. Land used for tourism is likely to be zoned Special Use or referred to as an additional use under another zone.

Examples of some existing tourist accommodation in the Shire include:

- Holiday Haven
- Jarrahdale Country Getaway
- Jarrahdale Holiday Cottages
- Serpentine Camping Centre
- Serpentine Park and Leisure Village
- Serpentine Retreat
- Yarrahbah Holiday Retreat.

Existing tourist attractions in the Shire include:

- Action paintball
- Bodhinyana Buddhist Monastery
- Byford Trotting Complex
- Cohunu Koala Park
- Historic Millbrook Cottage
- Hugh Manning Tractor and Machinery Museum
- Jarrahdale Basket Nursery and Giftware
- Langford Park
- Mundella Foods
- Necessiteas Tea Merchant and Accessories
- Old Post Office
- Parolo's Garage and Machinery Museum
- Serpentine Dams and Serpentine Falls
- Serpentine National Park
- Turner Cottage
- Whitnigh Cottage.

PERMISSIBILITY

1994 RURAL STRATEGY

The 1994 Rural Strategy includes a Tourism and Recreation Policy Overlay, although the exact extent of the overlay is unclear. This Policy Overlay recognises the Shire as a tourist destination of regional significance and was created in order to encourage further development for tourism and recreation purposes. The Strategy states that tourism and recreation land uses should be located close to existing towns, near existing services and infrastructure and ensure that landscape, rural character and lifestyle is not compromised.

TOWN PLANNING SCHEME NO. 2

There is currently very limited opportunity or reference to tourism in the existing Town Planning Scheme (TPS). There is a definition for a Interpretative/Tourist Centre (any land or building used for the purpose of providing information relating to the history of, and existing facilities, services and attractions within the surrounding area and shall include incidental sale of tourist related goods and services) and this use is provided for under Council discretion under some Special Use zones.

One of the secondary objectives for the Jarrahdale Heritage and Townscape Policy Requirements under section 5.16 is to generally follow the Jarrahdale Townscape Study 1991 recommendations when considering applications for tourism and related facilities.

TOURISM STRATEGY

The actions presented in the Tourism Strategy largely relate to marketing and funding opportunities to attract people to the Shire. It has very little focus on planning outcomes and possibilities which could help more landowners and investors to develop and increase tourism in the Shire. A new Tourism Strategy should also address the planning issues related to tourism within the Shire.

MECHANISMS TO ASSESS TOURISM PROPOSALS

Options to be considered in progressing with tourism include:

- Updating the Tourism overlay
This approach is not favoured as the overlay in the Rural Strategy will not identify those sites within the urban areas, nor will it accurately identify those smaller sites across the Shire.
- Introducing a Tourism Zone
This may be an option for specific tourism-related land use or activities. A separate set of provisions would need to be identified to facilitate the zone, however once implemented would offer Tourism sites a level of protection beyond what currently exists.
- Identifying Strategic or Local Tourism Sites
The identification of tourism sites could be done on a case by case basis. This approach could work where there is a mixed use (e.g. residential/tourism or agriculture/farmstay) and where these sites have obtained planning approval. The mechanism for implementation requires thought – incorporation into a Local Planning Policy would allow for some flexibility in implementation.

8.4 CONSULTATION

BACKGROUND

The consultation conducted during the preparation of the original 1994 Rural Strategy indicated that there was a strong desire to protect the Shire's agricultural lands, rural character and lifestyle, natural landscape and conservation areas. Repeated community consultation is necessary in order to discover whether community perceptions have changed over time.

In 2011 the following consultation took place:

- Preliminary community meeting
- Internal workshop with Shire officers
- Meeting with the elected members
- Meeting with relevant officers from the WAPC
- Meeting with individual landowners and consultants who have prepared and submitted planning applications with the Shire.

Further consultation took place in 2012 with community meetings at Byford, Serpentine and Keysbrook. Meetings and presentations were made to the council and WAPC.

This section describes the consultation outcomes.

COMMUNITY MEETING 2011

A community meeting was held at the Shire on the 29th June 2011 at the Mundijong Pavilion. The purpose of the meeting was to provide an informal setting for community members (and representatives from community groups) to discuss the Rural Strategy and their issues and opinions with the Shire and the consultant team. The issues raised and discussions were recorded and noted so that the information could be integrated or taken into consideration in the report.

The written feedback of the community meeting is summarised below:

- The poultry overlay should be confined to the area where it already exists – no expansion
- Consider increasing the farmland rates concession as rates increase
- Farmland concession is essential given the rising costs of farm management

- Consider restricting the poultry overlay further to include the Henderson Road-Dunrail Road area – it seems to cover a large part of the southern end of the Shire
- Allow smaller lot sizes near the adjoining Murray Shire and consideration (for further development) should be given for the Keysbrook area.

Three community meetings were held at different locations throughout the Shire in February 2012. The dates and locations of the meetings were as follows:

- 15 February – at Byford Hall
- 22 February – at Atwell Pavilion, Mundijong
- 29 February – at Clem Kentish Hall, Serpentine.

Groups of participants were asked a number of focus questions in order to obtain feedback on specific issues. They were also given feedback forms so they could answer the questions at home in their own time and returned their answers to the Shire.

The questions asked included:

- Do you support smaller lot sizes?
- Are there any rural properties around you being used for some industrial and commercial use? Are there any issues associated with this? Would you support these areas being dedicated into a formal industrial/rural policy area?
- What do you think is a desirable lot size for rural living areas? Is 1ha too small? Can 4ha be used for economically productive rural activities?
- What are the biggest financial/economic issues facing farmers?
- Are traditional rural uses such as grazing economically viable? Do you make money? Do you need to supplement your income?
- Does the farmland rates concession assist?
- Is 40ha an appropriate size for rural pursuits?
- What's your opinion with regards to poultry farms? Is this a valued land use? Are there any issues?
- What's your opinion with regards to extractive industry? Is this a valued land use? Are there any issues?
- What's your opinion with regards to tourist land use? Is this a valued land use? Is there opportunity to expand or to develop new areas? Are there any issues?
- Do you value equine uses in the Shire?
- What do you value about rural areas of the Shire?
- Do you have issues with environmental management on rural properties?
- Does the Shire need more Rural Living/Lifestyle areas?
- How do you feel about rural villages?
- What are your thoughts on existing and future urban development?
- How do you anticipate the northern/middle/southern wards of the Shire to develop over the next 30 years?
- Do you think the equine industry has a long standing role to play in the Shire?
- What do you value about equine uses in the Shire?

- Do you think there is a need to strengthen employment opportunities in the Shire?
- What type of employment should be encouraged?
- Is there a need for privately owned facilities such as a golf course?
- What are your thoughts on land designated for employment purposes?
- What can the Shire learn from the interface between urban and rural land?

A range of responses were received with relation to the above questions, particularly those that related to the size of rural living lots and the viable size of a rural property. Therefore, it is difficult to come to an appropriate conclusion of the community perceptions and opinions regarding minimum lot sizes and what changes should be made to the Strategy.

SHIRE MEETINGS

Numerous internal meetings were held with the Shire in order to discuss the progress of the project and how the Rural Strategy interrelates to the other strategies being prepared by the Shire. Meetings were held with the Project Manager, Shire officers and Councillors. The topics discussed and issues raised are listed in the table below.

TABLE 8.3 – ISSUES FROM SHIRE OFFICERS

ISSUE	COMMENT
A revised Rural Strategy map is required to reflect the changes. Will this be prepared and will it be presented differently.	It is envisaged that a revised map will be prepared. There are opportunities to think of new ways to present the information such as the use of Policy Areas instead of zones and avoiding hard edges to each area (to allow for some overlap and discretion).
Industrial land uses in rural areas. This is becoming a common occurrence as landowners are trying to find new ways of supplementing their income (rather than relying solely on farming). Maybe a dedicated light industrial/rural area or a Special Use Area could be a solution?	This is something that the next stage of the review should investigate further and possibly integrate into the new Strategy. Further consultation is necessary and specific provisions will need to be developed for this land use (to ensure appropriate use, minimise conflict and minimal disturbance to amenity).
Effluent disposal along the low-lying, waterlogged-prone areas of the Shire are an issue (especially for Rural Living subdivisions). Some aerobic treatment units have been failing.	Land use capability (and particularly updated information) should be taken into account when determining the land uses in the Strategy. New information on land capability might result in changes to suitable areas for Rural Living.
Landscape protection, particularly along the Darling Scarp.	This issue needs to remain a priority during the review. Investigate the current landscape protection zone.
Protection of basic raw materials and consideration of existing extractive industries in the Shire. Resource protection should occur as a priority to provide for future generations. Also need to acknowledge the existence of existing operations and the need for these to remain and expand over time.	This issue should be considered in the Rural Strategy and certain areas designated for basic raw material extraction to assist with the protection of this land use.
Poultry farms in the rural areas can have significant impacts on surrounding areas.	The poultry farm overlay currently exists to help minimise land use conflicts and impacts. This will need to be investigated further to consider whether the policy overlay needs expansion or changing.
A Poultry Farm overlay currently exists. This might be a possible method for other land uses such as market gardens, intensive agriculture, landscape protection etc.	This is a valid suggestion which should be considered during the review of the Strategy and preparation of new mapping.
Ways in which the Strategy can provide for and guide tourism land uses in the Shire. There seems to be a conflict over the desire for more tourism opportunities (to attract people to the area) vs the concern that these uses can take business away from existing operators.	Tourism land use seems to be missing from the current Rural Strategy map and discussed marginally in the text. This land use should be considered further in the review, including the investigation of possible policy overlay areas for tourism or focus areas for this land use and how it can be integrated into the existing land uses in the Shire.
Is grazing an economically viable farming option for the future? Many landowners claim that they do not make enough money from farming and need to supplement their income in other ways.	This is a major issue currently facing the Shire and requires further investigation and study. It might be useful for the Shire to conduct an economic study to obtain more concrete information on this issue. Further investigation of alternative agricultural land uses should also be conducted (i.e. land uses which still make productive use of the land but might be different from traditional farming uses).
The land capability of land on the Palusplain (i.e. the low-lying, waterlogged prone areas at the western half of the Shire) is low and the productive capability is correspondingly low.	This is another major issue facing the Shire because it is related to the economic success of farms in this location. This issue should be taken into account when considering the economic viability of farms (in terms of land management costs and lot yield).
How was the Agricultural Protection Zone determined? What's the rationale/purpose of this zone? Is it still relevant?	This zone was most likely determined based on the land capability information available at the time. This should be revised using more current information and data.

ISSUE	COMMENT
The Shire currently does not have any guidelines to assist with the assessment of applications for 'ecovillages' or strata developments. Management possibly an issue resulting in re-subdivision. How can this be dealt with through current scheme for the short term?	The review should take this new form of land use/development into account with a possibly Policy Overlay or zone and provide recommendations addressing how they can be assessed.
Land use changes and developments within the adjoining Shires (especially close to the boundaries) will also have an impact on the land use.	The current and future land use in the adjoining Shires should be investigated and taken into account as part of the review.
The possible effect that zoning will have on rates.	It is recommended that Shire calculate this so that they are aware of this impact.
What does the community value about rural land?	This should be determined through community consultation.
Access to the freeway is good from King Road which is where some combined light industrial and rural activities are already taking place. This should be further investigated.	The issue of additional land uses within rural areas has been identified above. Areas where this is currently occurring (such as the King Road area) should be investigated further. Access to the freeway and the surrounding areas should be considered as part of this new land use zone.
Land use conflicts.	Land use conflicts should be considered as a priority when investigating which land uses are acceptable in certain areas of the Shire. Consultation with the community will help identify what the particular conflicts in certain areas are. This will then allow for a possible solution to be determined.
Integration of the revised Rural Strategy with the Urban Growth Strategy currently being prepared.	Communication with the consultant preparing the Urban Growth Strategy and the Shire is essential in order to ensure consistency.
Is grazing and traditional agricultural use economically viable on most properties in the Shire (particularly those on the Palusplain)? Agriculture is based on economies of scale (i.e. large vs small land parcels for farming - subdivision vs amalgamation). The more economical farms are being "corporated".	This is a major issue which has been identified by multiple landowners of rural properties throughout the Shire. Alternative agricultural land uses should be further investigated, along with the economic viability and appropriate property sizes to sustain these uses. A broader range of options for productive land use might give these landowners more flexibility and opportunities. Alternative agricultural uses will also provide a different land use option rather than subdivision for Rural Living.
In the Rural Living zone with lot sizes ranging from 1-4 acres, the 1 acre lots are considered too small and basically become large residential lots and land management becomes an issue. The Farmlot zone has larger lot sizes (4ha and more) and are more successful in this respect. Land prices are higher however and a smaller market exists.	This is important feedback which can be integrated into the zoning provision of the revised Strategy.
The impact of the development and changes taking place close to the Shire borders such as Keralup and the industrial areas in Rockingham.	The development proposed in surrounding Shires should be taken into account when considering changes to zones and land uses in the Strategy.
Ensure that all issues associated with the planning and development of the Oakford Rural Village are addressed, including its ability to integrate into a full urbanised environment.	The Oakford Rural Village is described further in Chapter 5 below.

TABLE 8.4– ISSUES FROM COUNCIL

ISSUE	COMMENT
Tourism development. How to deal with large holiday accommodation vs. small activities.	Tourism will be need to be investigated further as part of the review.
Sustainability of farmers and the economic basis of rural areas. Farm stays and other activities are usually employed to help supplement incomes. Economic basis for agricultural activities and the true cost of agricultural activities and food production. Rural hardship vs. embedded values such as the 'food bowl' concept and the subsequent concession on rates.	The economic viability of farms in rural areas needs to be investigated in more detail and appropriate changes and recommendations integrate into the revised Strategy to help deal with this issue.
Sustainable practices such as total water cycle management etc. Woodman point pipeline to Alcoa might also present potential opportunities for water availability.	Water management in rural areas of the Shire is a more detailed issue which can be considered further during the review of the Strategy. It should also be considered in conjunction with possible land use changes in rural areas.
The 'main heart' of horticulture is generally considered to be the Swan Valley which has different physical capability to the rural areas of the Shire.	A review of the Swan Valley can be considered as part of the review process to determine whether there are any synergies.
Remove anomalies in TPS such as isolated, "left out" properties and other areas for possible scheme amendments.	These issues will be sorted out at a later stage of the Strategy review and later in the planning process.
Rural strategy still relevant.	This should be acknowledged throughout the review and the Strategy should only be updated where relevant and necessary.
Equine centre should be encouraged and a Trails Master Plan should be incorporated.	This is noted and can be considered during the review.
Development in Shire of Murray such as subdivisions, motor racing track, waste water treatment plant etc. can potentially impact on development pressures and land use in the Shire. Keralup impact on the Shire, east west roads, development potential etc.	The development and land uses proposed in adjoining Shires should be considered as part of the review to ensure consistency and that external factors are taken into account.
Effects of "land banking" (i.e. land degradation to support alternative land uses). How can this be policed and stopped?	This issue can be considered during the review and addressed through changes to the guidelines.
Land used to the point of degradation and cannot be repaired. How much value is in the Environmental Overlay?	This issue should be investigated further and alternative recommendations to address environmental management considered. Maybe there is opportunity for more consistency with the Biodiversity Incentives Strategy.
Lot sizes in rural living areas are too large to manage and too small to farm.	This issue is related to the economic viability of rural areas and management and needs to be investigated further.
Incentive based strategies to look after / repair land.	The Biodiversity Incentives Strategy Conservation on Private Land was prepared in September 2010 to address this.
Built environment should not negatively impact on the natural environment.	This is noted, however is more of an urban development issue.
Animals on difficult sandy soils with perched water table.	This is a rural land management issue and should be considered in conjunction with rural economic viability, farm management and possible alternative land uses for these areas.

ISSUE	COMMENT
Visual aspects are important (such as fencing – post and rail vs. other types).	This comment can be addressed at the more detailed stages of the review at a later stage.
Co-operatives vs. single farms – economic analysis and productivity.	The economic viability of rural properties needs further investigations and the results incorporated into the Strategy accordingly.
Genetically modified free Shire.	This is noted and can be mentioned in the Strategy.
Are rural industries in semi-rural residential estates actually economic productivity and is this land use sustainable? What uses should be allowed?	The economic viability and success of rural industries should be investigated further, especially in relation to lot size and the cost of properties and rates etc. These results should be compared, in turn, with the economic viability of rural land uses only. Sustainability considers a three tiered approach which required more comprehensive look at economic, social and environmental impacts of these land uses. Nevertheless, the sustainability aspect of rural industry should be considered as part of the review.
Plan for the Future, Biodiversity Strategy etc. it's important to enable outcomes of previous plans and strategies.	Existing planning documents and strategies will be reviewed and incorporated (especially new information) into the revised Strategy where appropriate.
Climate change responsiveness such as decreasing rainfall, natural disasters, flooding.	These issues are also linked with farm management and economic viability of rural properties and future land uses. These points can be considered as part of this assessment throughout the review.
Renewable energies such as wind turbines, 'chook poo', solar energy etc.	Renewable energy sources can be addressed at the more detailed stages of the review at a later stage.
Consultation with people who have previously been engaged.	The consultation strategy as part of the review should ensure that people who have been consulted with in the past are contacted and kept up-to-date.
Equine reserves/precincts.	The concept of an Equine Precinct or Overlay can be considered as one of the additional overlays as part of the review.
Landscape and other protection zones review – reasons for existence.	The protection zones and overlays can be reviewed.
Mining and extraction on the scarp and the impact of SPP's and the Mining Act.	The existing extractive industries and basic raw material areas will be considered as part of the review. Areas in the Basic Raw Materials Policy Area will be reviewed to consider current relevance and new areas identified if necessary. Guidelines related to this land use will also be reviewed.

DEPARTMENT OF PLANNING

Numerous meetings were held with officers at the Western Australian Planning Commission at the Department of Planning throughout the project. The outcomes from these meetings are listed below:

- Directions 2031 is currently under review to take into account revised population numbers and longer-term growth areas.
- Possible growth areas such as the proposed villages (Oakford and Hopelands) will be considered in the Directions 2031 review.
- Still a lot to be determined in terms of WAPC plans for 2050 and long term growth.
- Changing community values need to be determined and considered in the review.
- The Department of Transport are currently preparing a strategy addressing transport in the Shire and beyond. This might affect the major traffic routes which will in turn influence where certain land uses should ideally be located.
- Basic raw materials and extraction needs to be addressed in the Strategy.
- There have been changes to the investigation areas for development recently
- Advised that there also other planning reports yet to be finalised by the Department (Directions 2031, Sub-Regional Strategy, determination of investigation areas etc.)
- WAPC are moving away from rural residential land uses
- Advised we focus on how to retain the rural character of the Shire
- Also suggested that we focus on the Scarp
- Also suggested the Strategy includes pockets of rural land to remain as is.

The draft Rural Strategy was provided to the Department of Planning for review and feedback and subsequent modifications were made.

DEPARTMENT OF AGRICULTURE AND FOOD WA (DAFWA)

DAFWA discussed the project and provided their thoughts on land capability, land uses and lot sizes. The points raised in this meeting are below:

- DAFWA are aware that there are some intensive land uses on small prices of land – some are successful but not all;
- Unless a big beef grower company, farmers generally do not make much money;
- Beef is the default land use because land capability is so poor;
- Other land uses such as horticulture, orchards etc. don't exist simply because the land capability is poor and these uses are more viable in other areas;
- It essentially doesn't matter whether lot sizes are 40ha, 30ha or 20ha etc. – none are very viable;
- It all comes down to the land capability – the capability on the Palusplain is very poor;
- It will only be properties with better soils which have the potential to be more successful;
- Intensive horticulture, piggeries, dairies (higher than beef farming) – worst land uses in terms of nutrient runoff;

- Suggested introducing precincts as a new way to plan for the Shire;
- Some argue that lifestyle lots will manage the land better – 4ha too large to manage appropriately.

COMMUNITY FOCUS GROUPS 2012

Three community meetings were held at different locations throughout the Shire in February 2012. The dates and locations of the meetings were as follows:

- 15th February – at Byford Hall
- 22nd February – at Atwell Pavilion, Mundijong
- 29th February – at Clem Kentish Hall, Serpentine.

Participants sat in groups and were asked a number of focus questions in order to obtain feedback on specific issues. They were also given feedback forms so they could answer the questions at home in their own time and returned their answers to the Shire.

The questions asked included:

- Do you support smaller lot sizes
- Are there any rural properties around you being used for some industrial and commercial use? Are there any issues associated with this? Would you support these areas being dedicated into a formal industrial/rural policy area?
- What do you think is a desirable lot size for rural living areas? Is 1ha too small? Can 4ha be used for economically productive rural activities?
- What are the biggest financial/economic issues facing farmers?
- Are traditional rural uses such as grazing economically viable? Do you make money? Do you need to supplement your income?
- Does the farmland rates concession assist?
- Is 40ha an appropriate size for rural pursuits?
- What's your opinion with regards to poultry farms? Is this a valued land use? Are there any issues?
- What's your opinion with regards to extractive industry? Is this a valued land use? Are there any issues?
- What's your opinion with regards to tourist land use? Is this a valued land use? Is there opportunity to expand or to develop new areas? Are there any issues?
- Do you value equine uses in the Shire?
- What do you value about rural areas of the Shire?
- Do you have issues with environmental management on rural properties?
- Does the Shire need more Rural Living/Lifestyle areas?
- How do you feel about rural villages?
- What are your thoughts on existing and future urban development?
- How do you anticipate the northern/middle/southern wards of the Shire to develop over the next 30 years?
- Do you think the equine industry has a long standing role to play in the Shire?
- What do you value about equine uses in the Shire?
- Do you think there is a need to strengthen employment opportunities in the Shire?

- What type of employment should be encouraged?
- Is there a need for privately owned facilities such as a golf course?
- What are your thoughts on land designated for employment purposes?
- What can the Shire learn from the interface between urban and rural land?

A range of responses were received with relation to the above questions, particularly those that related to the size of rural living lots and the viable size of a rural property.

9. EVALUATION OF POLICY AREAS AND OVERLAYS



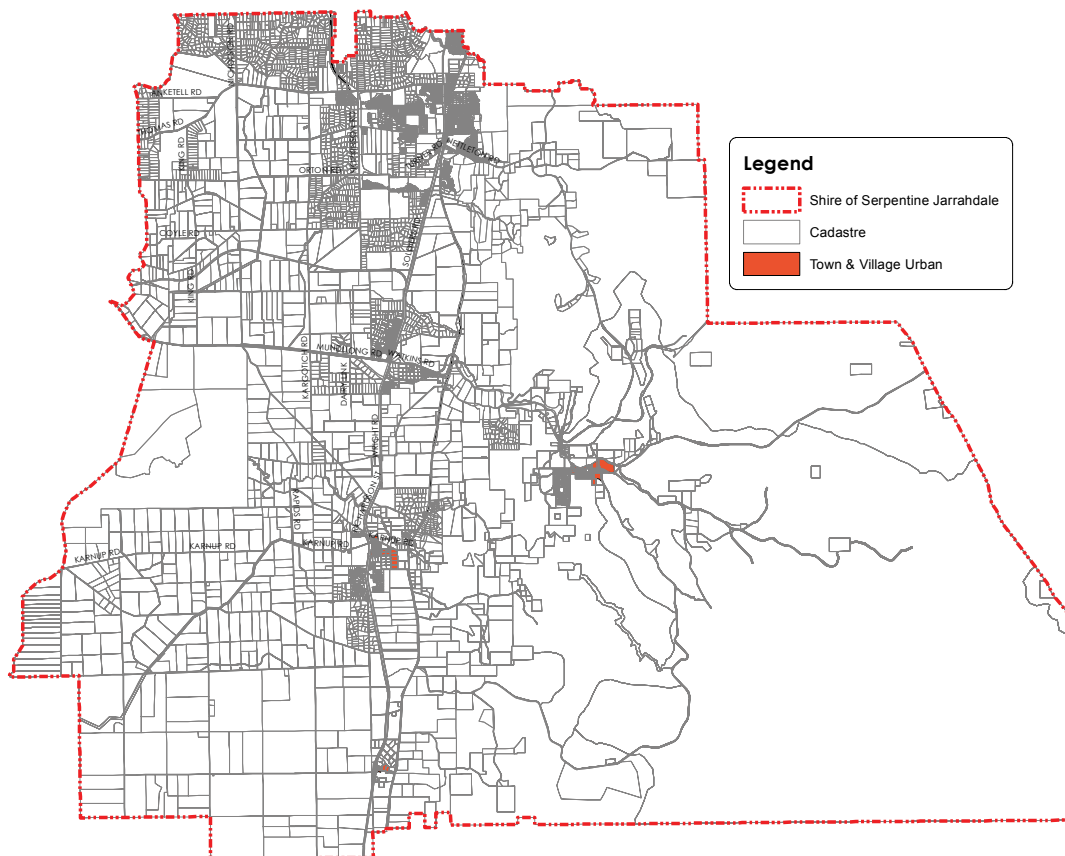
The Rural Strategy Project Plan prepared by Land Insights in 2011 included a review of the Policy Areas and Policy Overlays from the 1994 Rural Strategy. The implications and continued relevance of the Policy Areas and Policy Overlays are described below. This information supports any minor amendments to the RS as part of the current review process and will also feed into a future major review or preparation of a Local Planning Strategy.

9.1 POLICY AREAS

TOWN AND VILLAGE URBAN POLICY AREA

The Town and Village Urban Policy Area was created to help provide for the unprecedented increase in population which was expected to occur in the next 20-30 years in the Shire. The 1994 Strategy identified Mundijong as the regional centre with Byford as the other major town. Serpentine, Keysbrook and Jarrahdale were to remain as single development nodes. Medium to high density and mixed density urban development was encouraged for these existing urban areas in the Strategy.

Urban villages were proposed in the Strategy to provide smaller residential areas with small shopping and commercial areas in walking distance and were to be interspersed between the existing towns. The urban villages were Oakford, The Flats and Hopelands.



COMMENT

The existing towns and proposed villages are being considered in detail as part of the Urban Growth Strategy and do not necessarily form part of the Rural Strategy. The Oakford/Oldbury urban village is currently being investigated as part of an MRS Amendment and this area has been identified on the Rural Strategy map.

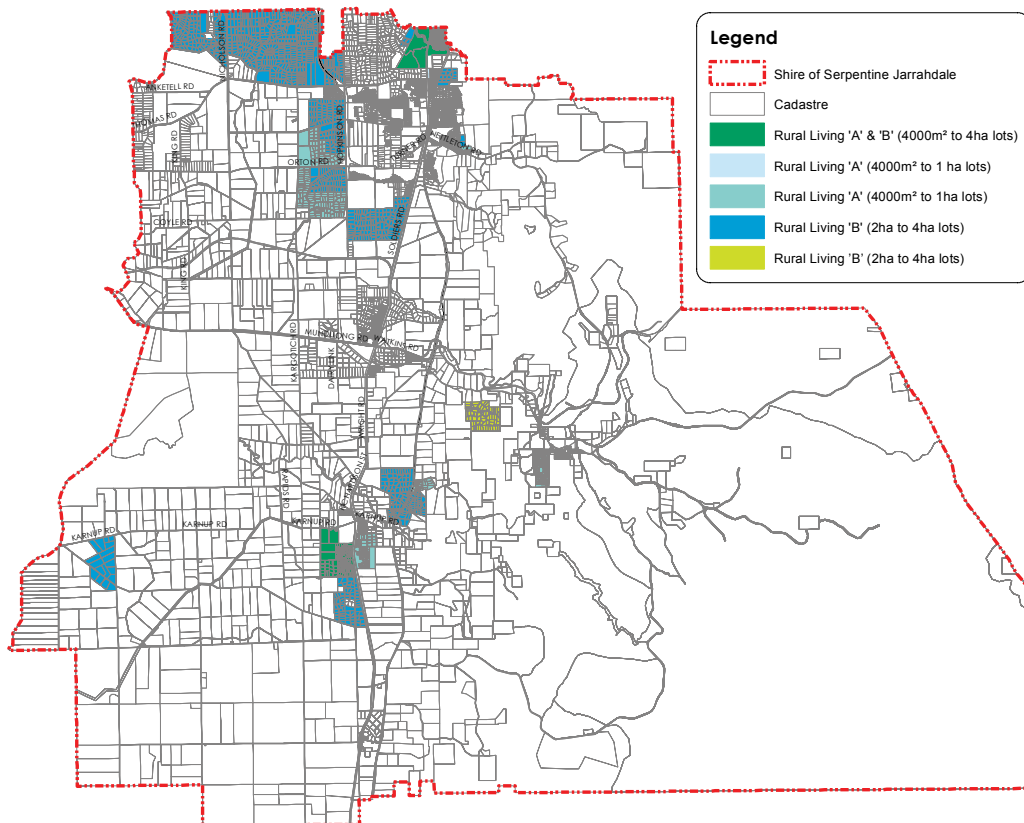
It is recommended that in future reviews of the Rural Strategy that the Town and Village Urban Policy Area is removed as these areas are not rural in nature and are more appropriately considered in the Urban Growth Strategy or a Local Planning Strategy. No significant changes have been made to this Policy Area in this review. The Rural Strategy map now includes the areas subject to further investigation and MRS Amendment and subject to Structure Plans.

RURAL LIVING POLICY AREA

Rural Living areas cater for those who seek a lifestyle with a greater sense of space and privacy than in urban areas. In the 1994 Strategy, this Policy Area was divided into A and B to distinguish between future rural living areas (Rural Living A) and existing rural living areas at the time (Rural Living B). These areas were also chosen with the objective of environmental repair in mind as it was considered that these properties are likely to be managed appropriately by the landowner and lead to environmental improvements. The three different Rural Living Policy Areas are:

- Rural Living A (lot sizes 4000m² to 1ha)
- Rural Living B (lots sizes 2ha to 4ha)
- Rural Living A and B (lot sizes 4000m² to 4ha)

At the time, Rural Living B was not considered a viable future option for development in the Shire due to the costs to service, the waste and inefficiency of land, and the increase in land management problems. The then-new Rural Living A areas were identified to cater for smaller lot sizes of 0.4 to 1ha. This was considered a better size to provide a greater sense of privacy and space, but less likely to be used as a hobby farm which can lead to land management issues at this small lot size. Larger lot sizes ranging from 4-40 ha were proposed in the Farmlet Policy Area (below) to cater for hobby farms.



COMMENT

The Rural Living Policy Area is still relevant to the Rural Strategy. The three different Rural Living classifications provide for a variety of lot sizes which can be used for different purposes ranging from hobby farms to large urban style blocks. Feedback from consultation indicates that lots in the Rural Living A Policy Area are less successful from a land management point of view and that larger lots which can be used for hobby farms or other purposes tend to be more successful. However, variety of lot sizes between 4000m² and 2ha should be considered in this instance.

Preparation of a new Rural Strategy or Local Planning Strategy) should consider the relevance and necessity of Rural Living A and B. This Policy Area includes the same lot sizes allowed for both Rural Living A and Rural Living B and it appears that most subdivisions tend to develop at the lower end of the scale to create more lot yield. Changing the title of this policy area to Rural Residential might also need to be considered in order to be more consistent with the purpose and use of these lots.

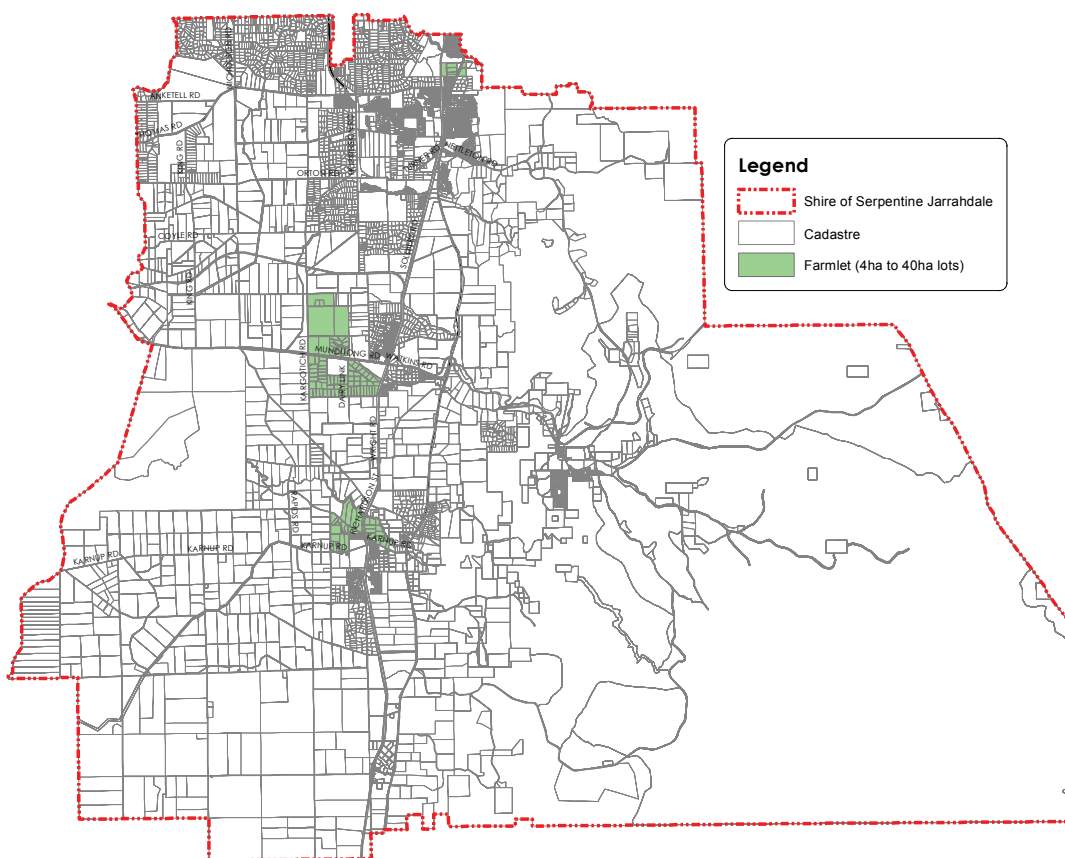
The Shire has received numerous proposals to rezone to Rural Living zones in various locations, many of which are located near existing Rural Living zones. Some new areas have been identified in the Rural Strategy review for Rural Living which essentially 'round off' existing areas.

Issues pertaining to land management, servicing costs and land use efficiency are still relevant today. These issues now also need to be considered within the broader State framework of SPP2.5.

FARMLET POLICY AREA

The 1994 Rural Strategy defines as Farmlet as small farms that may be used for commercial production, alternative agriculture and some intensive agriculture or hobby pursuits. Only small areas were identified within this Policy Areas one of the criteria was to avoid land that was affected by poor drainage, low soil productivity, erosion risk and poor effluent disposal. In addition, the policy suggested that this land use should be developed as a cluster style to maximise use of services and infrastructure and, as such, located relatively close to towns and villages.

The Strategy also recognises that well designed and well managed Farmlet developments often result in significant environmental rehabilitation. This is generally because there is generally better scope and capability for management of these properties than if they were smaller in size and used for marginal agricultural use. As a result, the Strategy states that Farmlet owners should not be permitted to undertake intensive horticulture or intensive animal rearing as these land uses generally lead to environmental degradation.



COMMENT

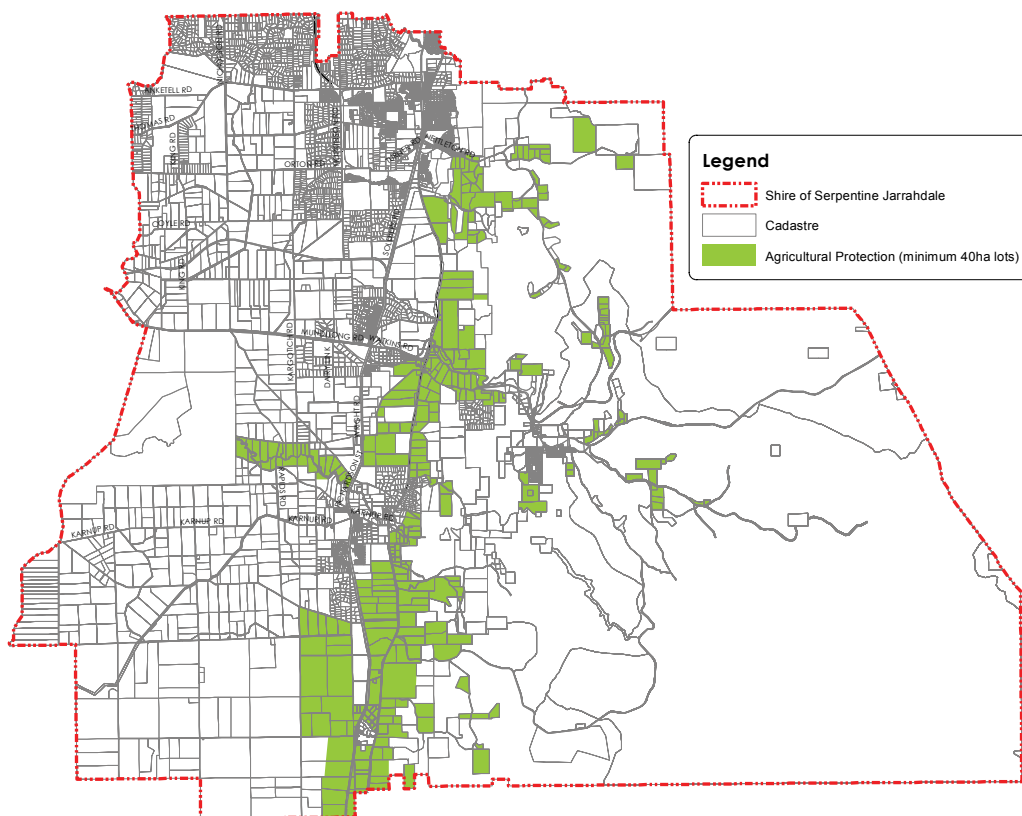
It is considered there is still merit within the broad objectives of this precinct, however it is suggested that the mechanism and criteria for the precinct be reviewed. There are some peculiarities regarding this Policy Area – with statements suggesting lot sizes of 4-40 hectares being consistent with strata-titling of lots and the need to promote clustering.

Preparation of a new Rural Strategy or Local Planning Strategy should consider the relevance and purpose of this Policy Area and whether these areas should be re-categorised Rural Smallholdings or Residential and Stables. The preferred lot sizes should be considered as well as the appropriate land uses.

The rural land to the west of Serpentine along Karnup Road has been identified in this review for inclusion in the Farmlet Policy Area.

AGRICULTURAL PROTECTION

The purpose of creating the Agricultural Policy Area in the 1994 Strategy was to provide an extra level of protection for productive agricultural land. The minimum lot size for this Policy Area was also set at 40 ha, although the Strategy also states that no meaningful minimal lot size can be set for a viable farming operation as the variety in agricultural land uses in the Shire is very broad. The 1994 Strategy recommends that subdivision will only be supported for full-time commercial agricultural purposes and specifically excludes Farmlets and rural living uses.



COMMENT

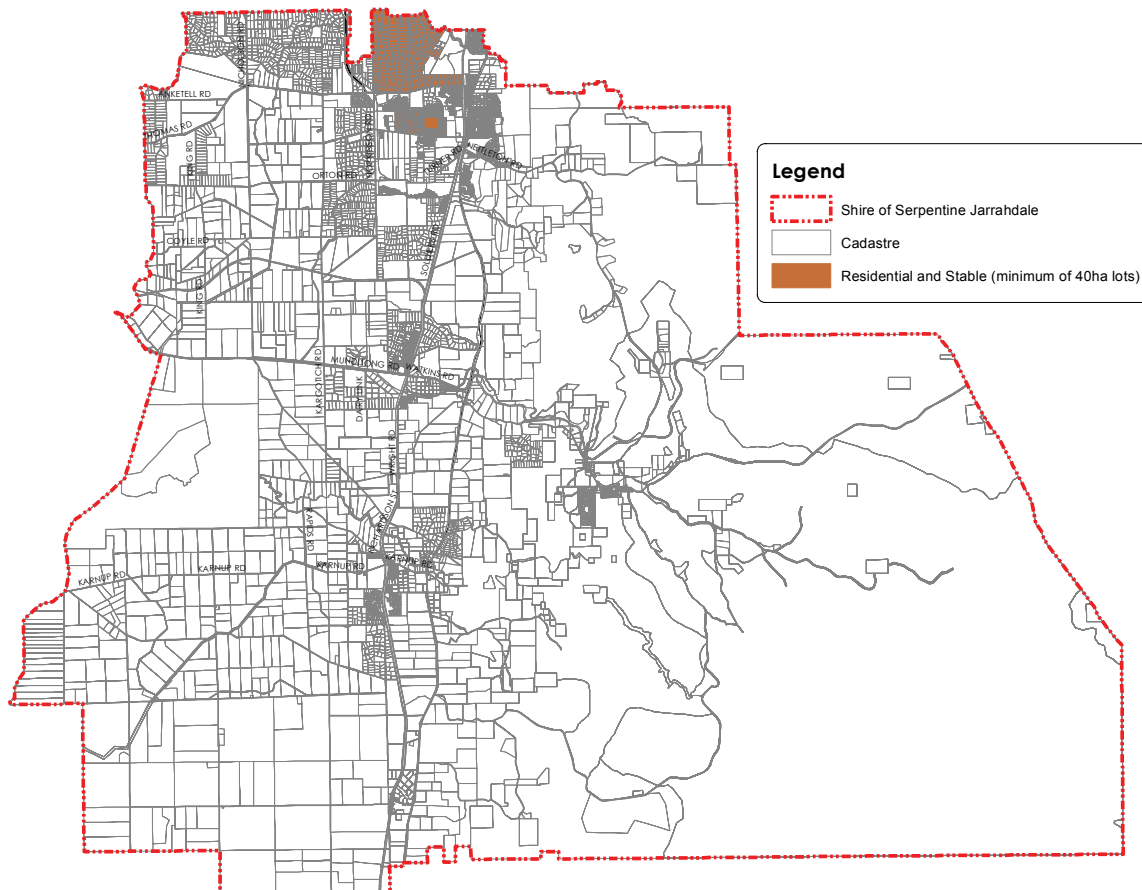
The relevance of the Agricultural Protection Policy Area has been questioned during the consultation undertaken as part of this project. There is some uncertainty regarding how this policy area was determined in the original plan. Some landowners have also stated that their land is within this policy area, yet has a low land capability, low productivity and not economically viable. The Agricultural Protection area was determined many years ago using broad-scale mapping and was not site specific or ground truthed. As a result, it's considered inappropriate that this land is further constrained for development, particularly when detailed site assessments indicate a low capability for agriculture.

Preparation of a new Rural Strategy or Local Planning Strategy should consider the relevance of this Policy Area. Sections of this Policy Area could be changed to reflect its location in the Landscape Protection Area and other areas revert to the Rural Policy Area. The existence of the Agricultural Protection Policy Area should be reconsidered in the context of determining whether these areas meet minimum requirements to be classified as priority agricultural areas.

No new areas have been identified in this review for the Agricultural Protection Policy Area.

RESIDENTIAL AND STABLE

The Residential and Stable Policy Area was included in the Rural Strategy as a recommendation from the 2003 review. The reason that this policy area was created was to provide a zone for the Byford Trotting Complex. The purpose of the policy area was to provide a separate zone for intense equine activities which can potentially generate offsite impacts that could conflict with the values of traditional rural living areas. Desirable land uses in this policy area is predominantly the stabling and training of horses.



COMMENT

This policy area is still considered relevant in order to keep intense equine land uses separate from traditional rural living development. No issues have been raised to date regarding this policy area, however the Shire has received some interest from landowners who are interested in creating a similar subdivision on nearby properties.

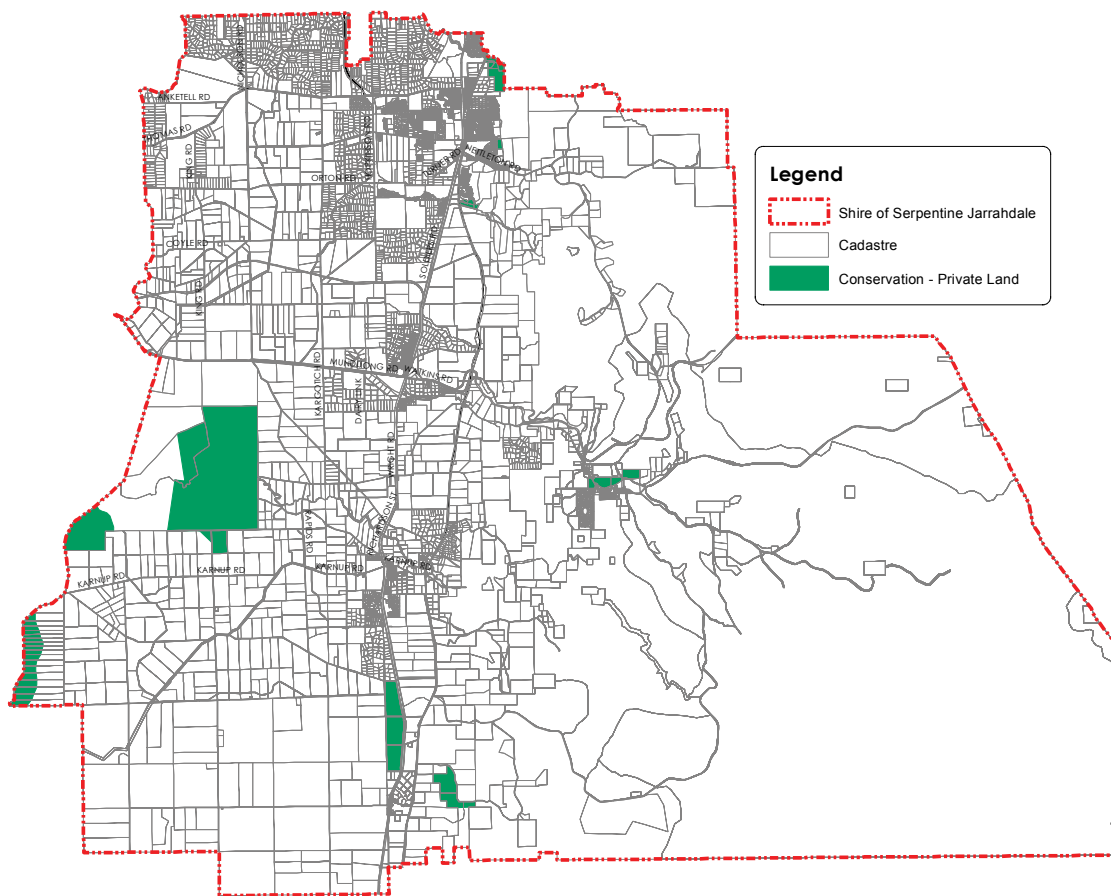
Preparation of a new Rural Strategy or Local Planning Strategy should consider including additional areas into this Policy Area such as the Rural Living land to the west of Tonkin Highway and north of Thomas Road.

This review has included a few lots south of the Mundijong-Whitby Structure Plan in this Policy Area to reflect the desire to promote a residential and stables area in this location to a similar standard as the Darling Downs.

CONSERVATION

The aim of the Conservation Policy Area is to provide an increased level of protection and management for land with significant environmental values. The purpose of the Policy Area is to ensure that development which is incompatible with the maintenance of conservation values does not take place. The 1994 Strategy discusses how this Policy Area can apply to both private and public lands, however it is considered that the Strategy should focus on private land as the management and protection of public lands is generally the responsibility of another agency.

The Strategy suggests that the Shire should encourage and make it easier for landowners to protect and manage natural areas on their properties and suggests that certain incentives be offered such as lower rates and more development opportunities (providing this isn't detrimental to conservation objectives). This is essentially a precursor to the Biodiversity Incentives Strategy prepared in 2010 which provides further guidance for the Shire and landowners on this subject.



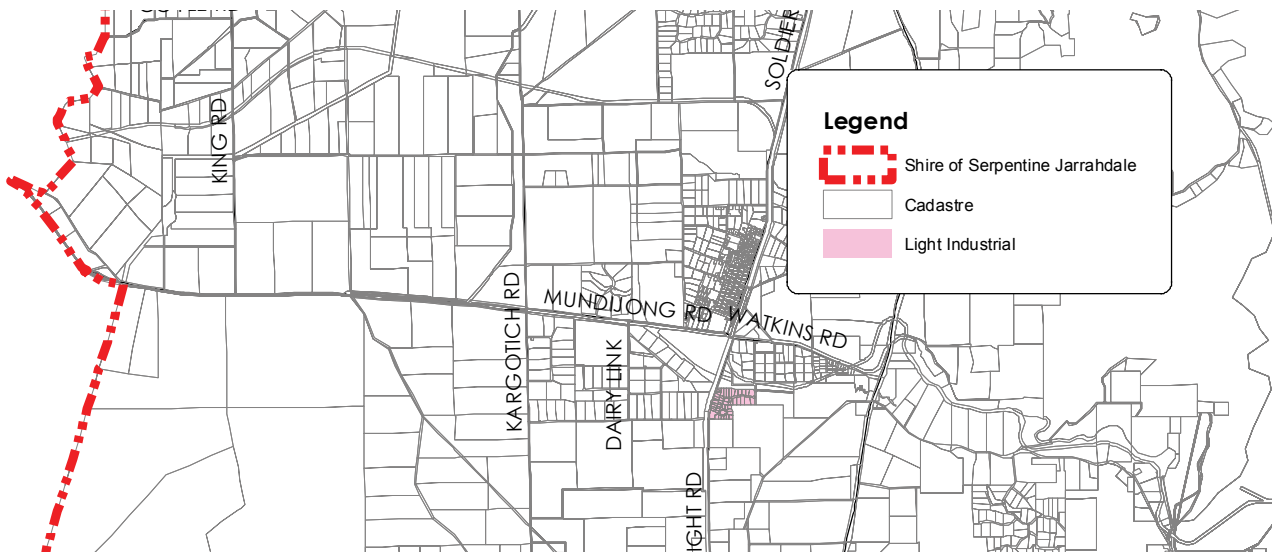
COMMENT

The Conservation Policy Area corresponds to the Conservation zone referred to in the Biodiversity Incentives Strategy and which has subsequently been included in the Scheme.

Preparation of a new Rural Strategy should consider the relevance of this zone as it is not strictly a rural land use and is already considered within the framework of the more recent Biodiversity Strategy. It should be noted that some land included in this Policy Area is no longer zoned as Conservation and should be updated in the Strategy. The preparation of the Local Planning Strategy should consider inclusion of this Policy Area and make appropriate updates.

LIGHT INDUSTRY

The Light Industry Policy Area aims to attract, encourage and provide the opportunity for commercial and light industrial uses to support residential development and village expansion. The 1994 Strategy states that the types of commercial and light industrial use supported is dependent on land capability and suitability. The Light Industry Policy area was identified in the 1994 Strategy as indicative while planning for future industrial development was taking place via the Structure Plan process. As structure planning in the Shire has well advanced since 1994, it is suggested that the relevance of this area in the Rural strategy is reconsidered. Only a small area south of Mundijong is located in this Policy Area.



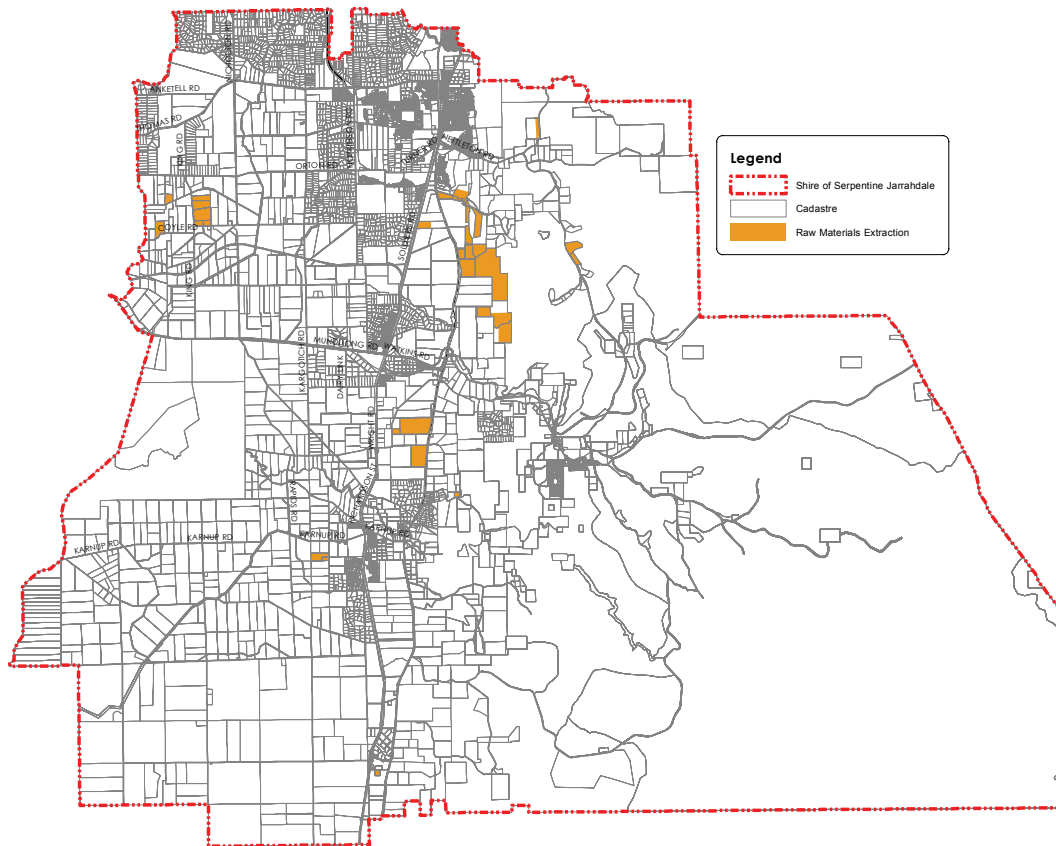
COMMENT

The 1994 Strategy only identifies one area south of Mundijong as Light Industry. However this is no longer current due to the new industrial areas which have been proposed as part of the Mundijong and Byford townsite expansion such as Cardup Business Park and West Mundijong Industrial Area. Submissions have also been received for new Service Commercial and Highway Commercial areas.

The Light Industry Policy Area has been renamed in this review to the Rural Enterprise Policy Area. It has also been extended to include all land within the West Mundijong Industrial Area Buffer north of Mundijong Road and a portion of land along the future Tonkin Highway reservation.

RAW MATERIALS EXTRACTION

This Policy Area seeks to encourage and provide the opportunity for continued use and development of existing sites for extraction of raw materials. The 1994 Strategy identified properties for this Policy Area based on the 'Priority Resource Areas' and 'Key Extraction Sites' identified in State Planning Policy 2.4 and areas which were used for basic raw materials at the time.



COMMENT

The areas identified in SPP 2.4 as 'Priority Resource Areas' and 'Key Extraction Sites' are protected by State policy and be recognised for this land use. It should be noted that some properties identified as Basic Raw Materials on the 1994 Strategy map are no longer used for this purpose and these should be changed accordingly (most likely back to Rural).

Preparation of a new Rural Strategy should consider the relevance of this zone as it is not strictly a rural land use and, seeing as basic raw materials can take place on a property in conjunction with rural land uses, it seems in appropriate that an entire property should be zoned as this Policy Area. This zone could be better suited as an overlay. A review should also consider the inclusion of any new or future basic raw material sites to ensure their future protection and to help reduce potential land use conflicts.

9.2 POLICY OVERLAYS

ENVIRONMENTAL REPAIR POLICY OVERLAY

DESCRIPTION

This Policy Overlay targets areas where broad scale rehabilitation of degraded land is necessary and most likely achievable with appropriate management. This area largely occurs over the Bassendean and Sandplain land systems. It was proposed in the 1994 Strategy that environmental repair could occur through a cooperative approach between landholders and the Shire and by ensuring that environmentally responsible development occurs.

Essentially, the Strategy stated that in areas covered by this Policy Overlay it could be possible that Rural land could be rezoned to larger lot Farmlet development provided that environmental repair is carried out. However, it is essential that environmental repair is shown to be demonstrably achievable as part of the application. Environmental repair is defined in the Strategy as encompassing rehabilitation of degraded areas, catchment management, improvement of habitat, protection of wetlands and remnant vegetation.

The 2003 review of the Rural Strategy recommended that the use of the Environmental Repair Policy Overlay is suspended indefinitely. This basis for this decision was due to a number of issues including the fact that the initiative led to some discrimination in favour of landowners who did not manage their land appropriately (and would therefore have justification for subdivision) and the mapping which showed general areas for environmental repair was taken too literally as areas which had subdivision potential. It was also considered that other environmental conservation approaches such as the Conservation zone, subdivision for conservation (under the Biodiversity Incentives Strategy) and the use and development of targeted management plans would lead to better environmental results.

COMMENT

The use of this Policy Overlay was suspended indefinitely as recommended in the 2003 review. It is not recommended that the overlay is re-introduced. Environmental features and local natural areas have been identified in the Local Biodiversity Planning Strategy and planning incentives for conservation are provided in the Biodiversity Incentives Strategy. Therefore, the role of the Rural Strategy for environmental repair and conservation has been reduced and are now addressed in other strategies prepared by the Shire. It is not considered necessary for the subject of environmental repair to be revisited as an integral part of the review.

LANDSCAPE PROTECTION POLICY OVERLAY

DESCRIPTION

The Landscape Protection Policy Overlay was identified in the 1994 Strategy as areas of high landscape value to maintain the integrity of significant landscape areas and features. It generally includes the land across the Darling Scarp to the east of South-Western Highway. A majority of this area is used for agriculture, although tourism and recreational uses can also exist.

This Policy Overlay was created because some landscapes are more valued by the community and more sensitive to change than others. These areas primarily occur along the Darling Scarp. The Policy Overlay provides for continued use and development of the land but introduces

important requirements and controls on development to ensure a high standard of visual appearance.

Guidelines for development within this Policy Overlay are contained in the Shire's Local Planning Policy LPP 8 Landscape Protection. The development controls imposed by this policy are to ensure a high standard of visual appearance of the area. This policy should be referred to for development and planning applications within this area.

COMMENT

Protection of landscape and visual amenity is an important issue in the Shire. Areas are identified in the Shire's LPP 8 Landscape Protection. It is recommended that future review of the Rural Strategy or preparation of a Local Planning Strategy consider the introduction of a separate zone which encompasses this land (e.g.. Landscape – Scarp zone).

OBJECTIVES

The objectives of this Policy Area are:

- To maintain and protect rural landscape values, rural character and lifestyle values.
- To ensure that all future agricultural use and development is able to maintain an acceptable standard of environmental management and does not lead to further land degradation.
- To protect Local Natural Areas and encourage revegetation.
- To protect and enhance landscape features, scenic areas and aesthetics within this Policy Area through control over design, building materials and siting of development and land uses.
- To ensure consistency with the Shire's Local Planning Policy LPP 8 Landscape Protection.
- To maintain and enhance the historic character, tourist potential and townscape values of Jarrahdale without inhibiting development.

SUBDIVISION AND DEVELOPMENT GUIDELINES

- No subdivision is permitted within this Policy Area overlay.
- Cluster Development and subdivision will be supported where tourist or recreation outcomes are realised, subject to landscape and fire protections objectives being addressed to the satisfaction of Council.
- All applications for development will need to be accompanied by a Visual Landscape Assessment and a Fire Management Plan in accordance with Shire requirements in place at the time.
- Subdivision in accordance with WAPC Policy DC3.4 may be considered on their individual merits.

RURAL LANDSCAPE BUFFERS POLICY OVERLAY

DESCRIPTION

The Rural Landscape Buffer Policy Overlay was created in the 1994 Strategy as a wedge between towns and villages to maintain rural character and lifestyle values. It was suggested that viable land uses are directed to these areas to avoid later subdivision or loss of rural values. Suitable land uses in this area were intended to be Farmlet development rather than Urban or Rural Living development.

The purpose of this Policy Overlay was to establish a rural wedge between towns and villages in order to retain the rural character and

lifestyle of the area. The Strategy insists that viable uses should be established in buffer areas to avoid later subdivision.

COMMENT

There doesn't appear to be many issues associated with the Rural Landscape Buffers Policy Overlay. It is important that only rural uses be supported within these wedge areas to remove the possibility of future agglomeration of urban settlements.

OBJECTIVES

The objectives for the Rural Landscape Buffers Policy Overlay are to:

- Establish rural open space as a buffer in key areas to maintain separation between villages and towns.
- Maintain and protect landscape values and protect rural character and lifestyle values.
- Allow for viable land use that satisfies the above objectives.

SUBDIVISION AND DEVELOPMENT GUIDELINES

Subdivision and development in this Policy Overlay is dependent on the zoning of the land, which may vary.

INTENSIVE AGRICULTURE POLICY OVERLAY

DESCRIPTION

The Intensive Agriculture Policy overlay was created in the 1994 Strategy to include the area identified as the Peel-Harvey Coastal Plain Catchment as identified in Environmental Protection (Peel-Harvey Estuarine System) Policy. The purpose of identifying this Policy Overlay was to make it clear which areas would be assessed under this Protection Policy if any applications were made for intensive agriculture or horticulture in these areas. This is due to the potential for intensive agricultural land uses to contribute phosphorus and other nutrients into the estuary. Areas covered by the Environmental Protection (Peel-Harvey Estuarine System) Policy will need to be referred to the Environmental Protection Authority for comment.

This Policy Overlay was created as a response to the relatively higher environmental impact of intensive agriculture (such as nutrient export) and the requirement for approval in order to develop the land for these land uses.

COMMENT

The exact location of the Intensive Agriculture Policy Overlay is not available, however it is recommended that this is considered further in a full review of the Rural Strategy and preparation of the Local Planning Strategy.

OBJECTIVES

The objectives for the Intensive Agriculture Policy Overlay are to:

- Encourage environmentally responsible commercial intensive agricultural developments to locate in the Rural Policy Area and Agricultural protection Policy Area.
- Allow environmentally responsible alternative commercial or hobby farm intensive agricultural development to locate in the Rural Policy Area, Agricultural Protection Policy Area and Farmlet Policy Area.
- Ensure that all future intensive agricultural development meets acceptable standards for nutrient, contaminants and faecal matter in effluents and wastes.

- Ensure that all future intensive agricultural development is able to maintain an acceptable standard of environmental management. .

SUBDIVISION AND DEVELOPMENT GUIDELINES

Subdivision and development in this Policy Overlay is dependent on the zoning of the land, which may vary.

TOURISM AND RECREATION POLICY OVERLAY

DESCRIPTION

The Tourism and Recreation Policy Overlay was created in the 1994 Strategy to recognise existing tourism and recreation facilities and to encourage further development for these purposes. It applies over the entire Shire. It is recognised that tourism is an important and growing industry in the Shire which focuses on its unique rural character, historic features and natural beauty. Planning for tourism and recreation should make use of existing services and infrastructure and ensure that rural character, lifestyle values and landscape are not compromised.

This Policy Overlay recognises the Shire as a tourist destination of regional significance and was created in order to encourage further development for tourism and recreation purposes. The Strategy states that for tourism and recreation land uses should be located close to existing towns, near existing services and infrastructure and ensure that landscape, rural character and lifestyle is not compromised.

Tourism potential is recognised in the 1994 Strategy in the following areas:

- Jarrahdale townsite and surrounding area
- Serpentine historical precinct
- Improved access to sites and day use facilities including picnic facilities and bushwalking tracks
- Provision of information for tourists, accommodation, entertainment and food outlets
- Opportunities for the establishment of craft communities and holiday chalets.

COMMENT

The exact location of the Tourism and Recreation Policy Overlay is not available, however it is recommended that this is considered further in a full review of the Rural Strategy and preparation of the Local Planning Strategy. There could be further opportunity in the Shire to develop tourist-related land uses.

OBJECTIVES

The objectives for the Tourism and Recreation Policy Overlay are to:

- Attract, encourage and provide opportunities for the use and development of land for tourism and recreation purposes in association with the shire's main population centres.
- Encourage a range of seasonal spread of tourist and recreational destinations, activities and facilities.
- Optimise the use of public transport, in particular existing rail links to Perth and Rockingham.
- Cater for tourists through provision of a Tourist Information Centre and encourage the provision and upgrading of facilities for tourists such as service stations, food and drink outlets, accommodation,

access to picnic and recreation areas.

- Encourage the provision of new tourism and recreation activities and destinations, and upgrading of existing destinations and activities.
- Encourage a high quality experience for tourists and recreational users.
- Encourage craft and cottage industries and holiday chalets, holiday guest houses, farm and bush holiday accommodation and other tourist facilities to locate in the Shire.
- Foster and create awareness of the positive and negative effects of tourism in the Shire.

SUBDIVISION AND DEVELOPMENT GUIDELINES

Subdivision and development in this Policy Overlay is dependent on the zoning of the land, which may vary.

SUBDIVISION AND DEVELOPMENT GUIDELINES

Subdivision and development in this Policy Overlay is dependent on the zoning of the land, which may vary.

ROADSIDES CONSERVATION POLICY OVERLAY

DESCRIPTION

The Roadsides Conservation Policy Overlay was created in the 1994 Strategy for the roadside reserves under Council jurisdiction which have important conservation and landscape values. It was created so that this area is considered when the shire plans road works and management programs and where land use and development changes are proposed on adjacent private or public lands.

The Roadsides Conservation Policy Area targets roadside reserves under Council jurisdiction and recognises their conservation and landscape values. The Overlay categorises roadsides into low, medium and high conservation value and the management goals and guidelines for each category.

COMMENT

The exact location of the Roadsides Conservation Policy Overlay is not available, however it is recommended that this is considered further in a full review of the Rural Strategy and preparation of the Local Planning Strategy. It should be noted however that the overlay will relate primarily to road reserves rather than private land.

OBJECTIVES

The objectives for the Roadsides Conservation Policy Overlay are to:

- Maintain the integrity of indigenous plant communities in roadside reserves assessed as having HIGH conservation significance.
- Maintain the integrity of indigenous plant communities wherever possible and to encourage regeneration in roadside reserves assessed as having MODERATE conservation significance.
- Retain remnant trees and shrubs wherever possible and encourage their regeneration in roadside reserves assessed as having LOW conservation significance.
- Encourage revegetation projects in roadside reserves assessed as having LOW conservation significance.
- Ensure that all new road verges are satisfactorily vegetated at the time of their construction.

10. LAND CAPABILITY MAPPING REVIEW



10.1 BACKGROUND

Land capability is defined by DAFWA in Land Evaluation Standards for Land Resource Mapping (2005) as the ability of land to support a type of land use without causing damage. Determination of land capability requires consideration of the specific requirements for the land use as well as the degradation risks of the soil.

There are five (5) land capability classes:

- 1 – Very high – Very few physical limitations present and easily overcome. Risk of land degradation is negligible.
- 2 – High – Minor physical imitations affecting either productive land use and/or risk of degradation. Limitations overcome by careful planning
- 3 – Fair – Moderate physical limitations significantly affecting productive land use and/or risk of degradation. Careful planning and conservation measures required.
- 4 – Low – High degree of physical limitation not easily overcome by standard development techniques and/or resulting in high risk of degradation. Extensive conservation measures and careful ongoing management required.
- 5 – Very low – Severe limitations. Use is usually prohibitive in terms of development costs or associated risk of degradation.

The land capability classes are displayed on the maps produced by DAFWA by reducing the five classes to three by combining Class 1 and Class 2 to 'high capability' and Class 4 and Class 5 to 'low capability'.

Land capability maps were prepared for annual horticulture, perennial horticulture, grazing and cropping land uses. The maps show the percentage of soil types which have Class 1 or Class 2 land capability for that particular land use. Please note that these maps do not take water availability into account.

10.2 LANDSCAPE SYSTEMS AND SOIL TYPES

A number of different Landscape Systems are located throughout the Shire. These have been mapped and described by DAFWA. Each landscape system is defined based on the soil types found and their characteristics. This also provides correlation between the landscape system and land capability.

The landscape systems throughout the Shire are described in the table following:

LANDSCAPE SYSTEM	LANDFORM	GEOLOGY	SOILS	LOCATION
Bassendean System	Sand dunes and sand plains with flats and swamps.	Sandy alluvium over sedimentary rocks.	Pale deep sands, semi-wet soils and wet soils.	Stretches north to south throughout the western side of the Shire.
Pinjarra System	Poorly drained coastal plain.	Alluvium over sedimentary rocks.	Semi-wet soils, grey deep sandy duplexes, brown loamy earths, pale sands and clays.	Stretches north to south through the central section of the Shire (across the existing townsites) and extends west into the Palusplain.
Forrestfield System	Undulating foot slopes of the Darling and Whicher Scarps.	Colluvium over granitic and sedimentary rocks.	Duplex sandy gravels, pale deep sands and grey deep sandy duplexes.	Along the foothills of the scarp.
Murray Valley System	Deeply incised valleys.	Colluvium over granitic rocks.	Red loamy earths, shallow duplexes and rock outcrop.	Stretch north to south along the Darling Scarp.
Darling Plateau	Lateritic plateau.	Deeply weathered mantle over granitic rocks.	Duplex sandy gravels, loamy gravels, shallow and deep gravels, deep sands and wet and semi-wet soils.	Most of the eastern section of the Shire.

10.3 CAPABILITIES FOR VARIOUS USES

Land capability has previously been mapped for the Shire by DAFWA for different agricultural land uses. This information was reviewed as part of Phase 1 of the project to determine where areas of low capability and high capability soil types exist across the Shire in general. Please note that these maps do not take water availability into account.

Land capability ratings are provided for the following land uses.

LAND USE	DESCRIPTION
Annual Horticulture	Annual horticulture typically includes the production of irrigated horticultural crops which have short-term life cycles such as annual fruits, vegetables and cut flowers. It is assumed that the crops are grown for commercial purposes, that they are shallow-rooted, that mechanized cultivation occurs at least annually and that crops are irrigated
Perennial Horticulture	Perennial horticulture typically includes the production of irrigated horticultural crops which have long life cycles such as trees, shrubs and woody vines. It is assumed that the crops are grown for commercial purposes, that they are deep-rooted, that mechanised cultivation occurs only during crop establishment and that crops are irrigated.
Dryland Cropping	This land use encompasses the production of rain-fed field crops (i.e. without the use of irrigation) under a cropping system that incorporates minimal tillage and stubble retention. This includes crops such as wheat, barley, canola, lupins and oats. Stubble retention is assumed in order to reduce wind erosion throughout the dryer months.
Grazing	This land use encompasses the grazing of sheep and cattle on broad scale dryland pastures (i.e. land that is not irrigated) in agricultural areas (i.e. areas that receive less than 350mm of rainfall annually). It does not apply to intensively managed paddocks or irrigated pastures.

The land capability for the above land uses are described below:

ANNUAL HORTICULTURE

The land capability mapping for annual horticulture is low throughout the western half of the Shire (throughout the low-lying Palusplain). Small areas of moderate capability are scattered throughout the western section. Areas of moderate capability are located throughout the central section of the Shire (near the townsites and along the foothills of the Scarp) and the far eastern section of State Forest. Areas of high capability area located throughout the eastern side of the Shire (on the Darling Scarp and Plateau and around Jarrahdale).

PERENNIAL HORTICULTURE

Land capability mapping for perennial horticulture is much more mixed throughout the Shire. In general, the western side of the Shire has the lowest capability and the Darling Scarp and Plateau at the eastern side of the Shire has the highest capability.

DRYLAND CROPPING

The land capability for dryland cropping is simply divided by the Darling Scarp. The land to the west of the scarp (low lying areas and the Palusplain) have low capability and the eastern half of the Shire has moderate capability. There are no significant areas with high capability for dryland cropping.

GRAZING

The land capability for grazing is also more mixed, however it can generally be categorised as low capability throughout the western half and moderate capability throughout the eastern half of the Shire. Areas of high capability are identified along the foothills and the Darling Scarp.

10.4 LAND QUALITIES

Each soil type displays different land characteristics and qualities. As explained above, these are used to determine the land capability. DAFWA (2005) identifies a land characteristic as an attribute of the land which can be measured or estimated and which can be employed as a means of describing land qualities. Land qualities are defined by DAFWA (2005) as those attributes of land that influence its capability for a specified use.

The soil qualities are used by DAFWA to determine the degradation risks of each soil type and the land capability. Land qualities and degradation risks which are regularly used in land capability assessments include the following:

- Flooding
- Waterlogging
- Water erosion
- Wind erosion
- Phosphorus export
- Soil salinity
- Water repellence
- Rooting depth
- Site drainage.

As well as determining the land capability for agricultural uses, land

quality information can also be used to determine the suitability of land of rural residential and rural living development. The issues relating to this form of development focus more on the suitability of the land for septic tanks, the risk of flooding and the loss of productive agricultural land. Therefore, the land capability assessment for proposed rural residential or rural living development would need to review the phosphorus export risk (sites with a high export risk are not suitable for septic tank use), the flood risk and the land capability for agriculture.

FLOODING AND WATERLOGGING RISK

The flood risk throughout the Shire has been mapped by DAFWA as very low. Flooding is defined by DAFWA as the temporary covering of land by moving flood waters derived from overflowing streams and/or run-off from adjacent slopes.

Two other land qualities, site drainage and waterlogging are closely related and require consideration when determining the suitability of land for agricultural use or rural living. The site drainage potential is an indication of the suitability of the land for installing artificial drainage to remove excess water and reduce waterlogging and inundation. Waterlogging is described by DAFWA as excess water, in terms of saturated soil layers, in the root zone accompanied by anaerobic conditions. This land quality is widespread throughout the western half of the Shire and is a major factor reducing crop and pasture yields. The waterlogging risk has been mapped by DAFWA as high to moderate throughout the western half of the Shire and low through the eastern half.

NUTRIENT EXPORT

Nutrient export of phosphorus or nitrogen into waterways and wetlands can lead to eutrophication of these systems and algal blooms. Therefore, the phosphorus export risk of the soil is an important factor to consider in terms of agricultural land use (especially more intensive land uses which require fertilisation of soils) and rural living development where wastewater and intensive land uses can lead to a higher nutrient export risk.

Phosphorus export risk has been mapped by DAFWA across the Shire and shows that a majority of the western half of the Shire has a high risk. The central and eastern ends of the Shire have the lowest risk. Moderate phosphorus export risk exists at the south-eastern part of the Shire. Phosphorus export is defined by DAFWA as the likelihood that phosphorus moves from a given land unit to where it can contribute to eutrophication of surface water. Phosphorus can be transported either dissolved in water or attached to soil particles.

A Water Quality Improvement Plan (WQIP) has recently been prepared for selected sub-catchments of the Peel-Harvey Estuary (Juan Luis Montoya, 2012). The southern end of the Shire is included within the Dirkbrook-Punrak sub catchment, including the Poultry Farm Special Control Area. This catchment is described as naturally poorly drained and seasonally waterlogged and hence is mapped as palusplain or damp land types. The land uses within this sub-catchment are described as cattle for beef (28%), animal keeping mostly horses (6.6%) and mixed grazing (3.1%). The major source of nutrients (nitrogen and phosphorus) is cattle for beef and intensive animal use (which is one of the smallest land uses by area).

Future land use and management in the southern end of the Shire will need to be considered in terms of nutrient export risks and aim to reduce the impact on nutrient levels in the Peel-Harvey Estuary.

10.5 WATER AVAILABILITY

Apart from the suitability of the soil in terms of soil qualities, water availability is a fundamental characteristic that needs to be considered when determining the overall capability of the land to support a particular use. The mapping prepared by DAFWA also clearly states that the land capability ratings are based on soil and landform characteristics only and does not take water availability into account.

Water availability is particularly important for horticultural activities because without irrigation or adequate rainfall, these plants would simply not survive. If water is not available to support horticultural activities the land capability of the soil is irrelevant. Water availability depends on the rainfall of the location, the amount of surface water runoff compared to filtration rate of the soil, groundwater availability, quality of groundwater, the site conditions for the construction of a dam (which depends on soil qualities and the landform) and the presence of a bore. This should be considered on a site by site basis as each location is likely to have different variables.

APPENDIX A BACKGROUND PLANS



Legend

- Shire of Serpentine-Jarrahdale
- Local Government boundaries

Non freehold

-

Cadastre

- < 4000m2
- 4000m2 to 1ha (Equiv Rural Living A)
- 1ha - 2ha (No Rural Strategy Equiv)
- 2ha - 4ha (Equiv Rural Living B)
- 4ha - 40ha (Equiv Farmlet)
- 40ha + (Equiv Rural/Agric)

KWINANA, TOWN OF

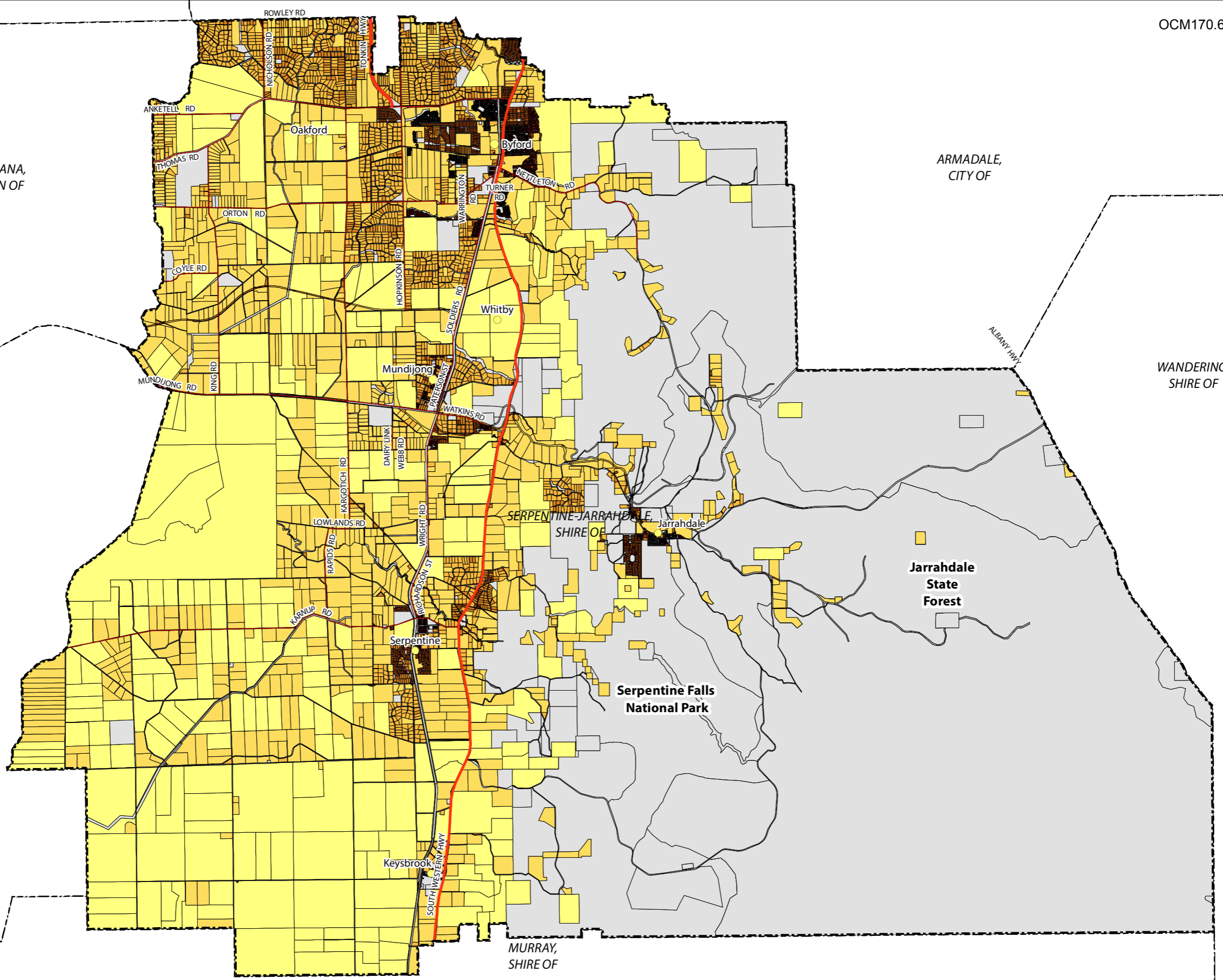
ARMADALE, CITY OF

WANDERING, SHIRE OF

ROCKINGHAM, CITY OF

MANDURAH, CITY OF

MURRAY, SHIRE OF



Date: 10/07/2012
Name: Fig A1_Lot Size.mxd

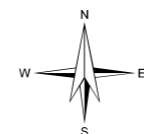
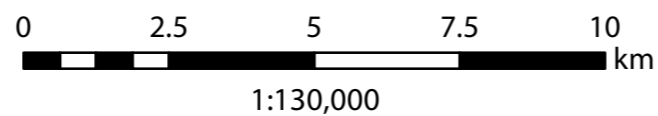


Figure A1
Lot Size

RURAL STRATEGY

OCM 18 December 2017
SHIRE OF SERPENTINE JARRAHDAL

Legend

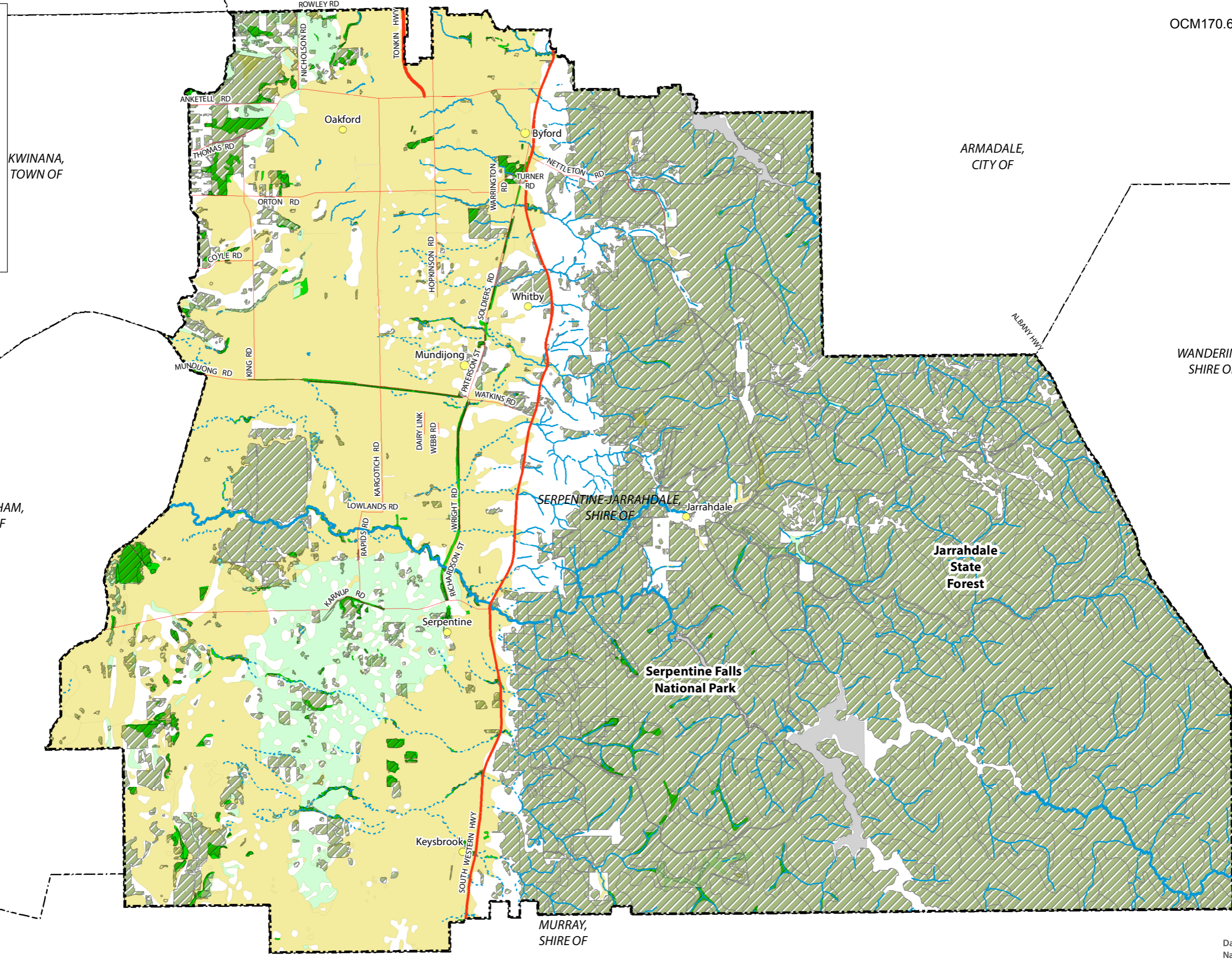
- Shire of Serpentine-Jarrahdale
- Local Government boundaries
- Remnant Vegetation

Watercourses

- Major Watercourse, Perennial
- Minor Watercourse, Non-Perennial
- Minor Watercourse, Perennial

Wetlands

- Conservation
- Resource Enhancement
- Multiple Use
- Not Assessed



KWINANA, TOWN OF

ARMADALE, CITY OF

WANDERING, SHIRE OF

ROCKINGHAM, CITY OF

Jarrahdale State Forest

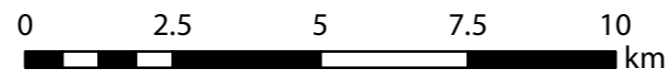
Serpentine Falls National Park

SERPENTINE-JARRAHDAL
SHIRE OF

MURRAY, SHIRE OF

MANDURAH, CITY OF

Date: 11/07/2012
Name: Fig A2_Biodiversity.mxd



1:130,000



Figure A2
Biodiversity

RURAL STRATEGY

OCM 18 December 2017

SHIRE OF SERPENTINE JARRAHDAL

Legend

- Shire of Serpentine-Jarrahdale
- Local Government boundaries
- Cadastre

Land Capability (Cropping)

- A1: >70% Class 1 or 2
- A2: 50-70% Class 1 or 2
- B1: >70% Class 1, 2 or 3
- B2: 50-70% Class 1, 2 or 3
- C1: 50-70% Class 4 or 5
- C2: >70% Class 4 or 5

KWINANA, TOWN OF

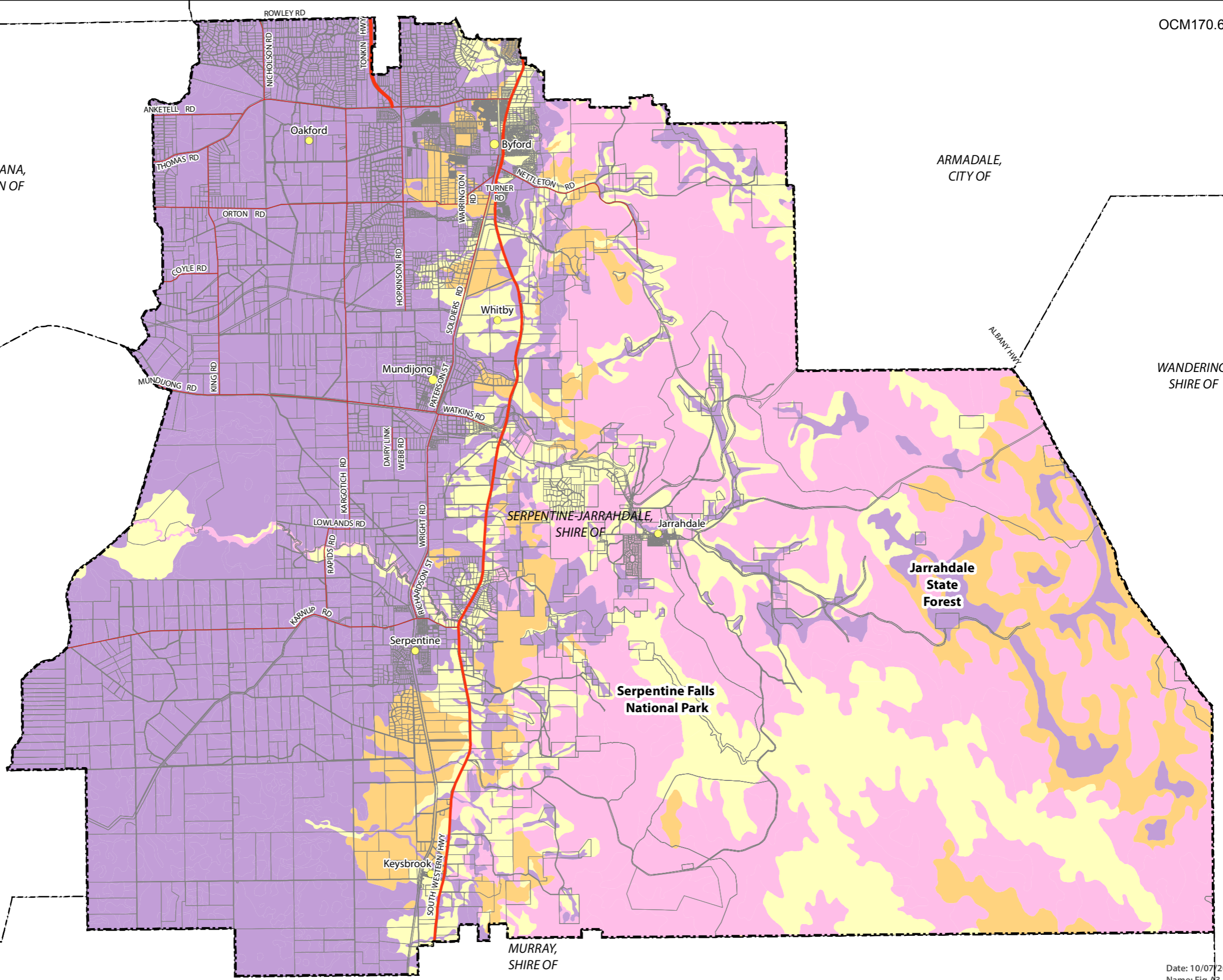
ARMADALE, CITY OF

WANDERING, SHIRE OF

ROCKINGHAM, CITY OF

MANDURAH, CITY OF

MURRAY, SHIRE OF



Date: 10/07/2012
Name: Fig A3_LC_Cropping (MinTil).mxd

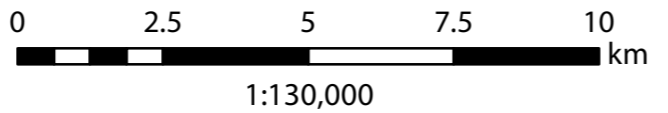


Figure A3
Land Capability - Cropping (Minimal Tillage)
RURAL STRATEGY

Legend

- Shire of Serpentine-Jarrahdale
- Local Government boundaries
- Cadastre

Land Capability (Grazing)

- A1: >70% Class 1 or 2
- A2: 50-70% Class 1 or 2
- B1: >70% Class 1, 2 or 3
- B2: 50-70% Class 1, 2 or 3
- C1: 50-70% Class 4 or 5
- C2: >70% Class 4 or 5

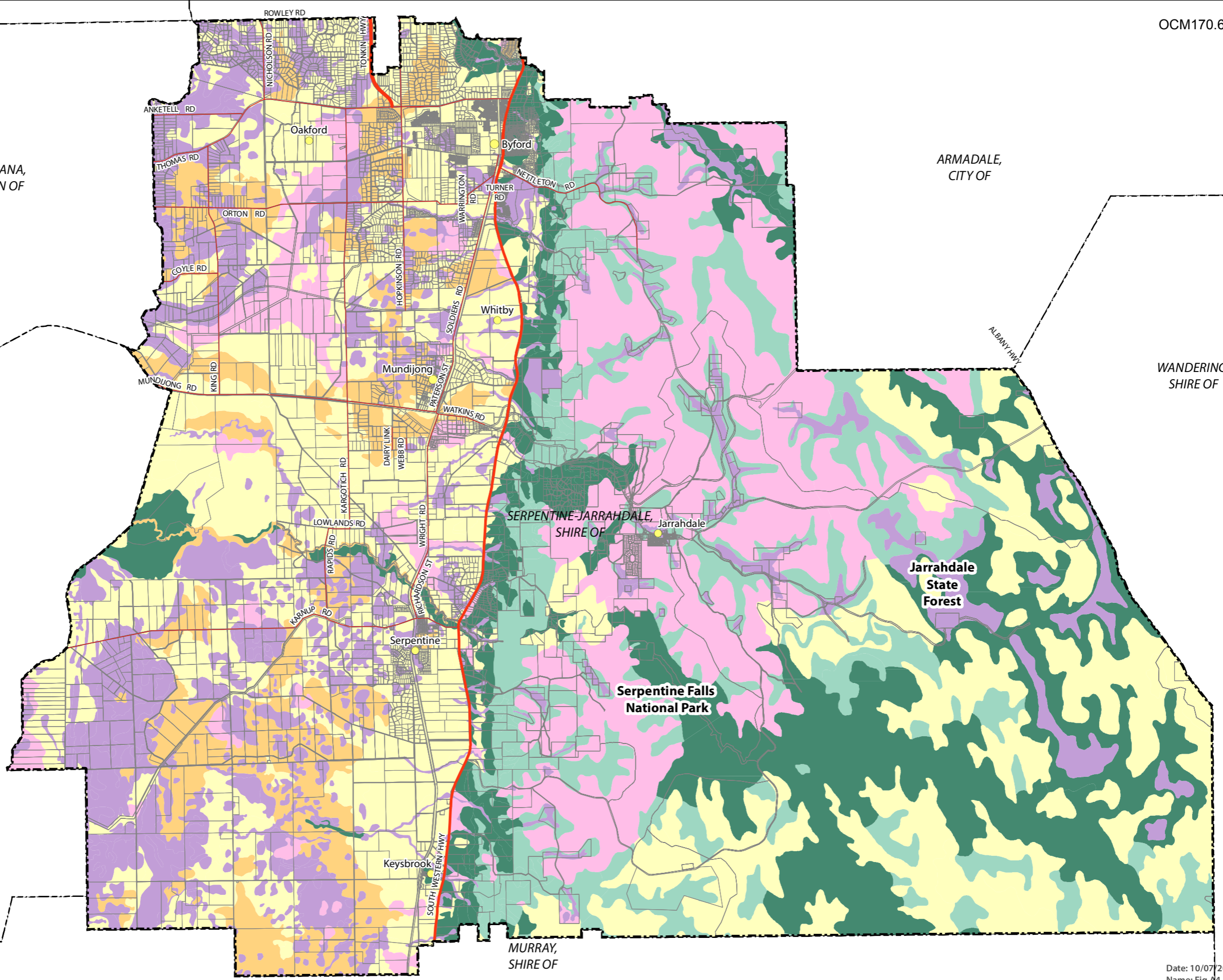
KWINANA, TOWN OF

ARMADALE, CITY OF

WANDERING, SHIRE OF

ROCKINGHAM, CITY OF

MANDURAH, CITY OF



Date: 10/07/2012
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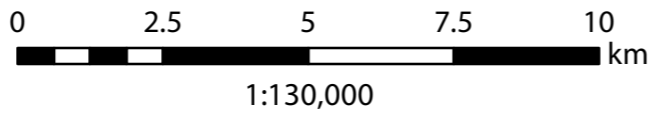


Figure A4
Land Capability - Grazing
RURAL STRATEGY

Legend

- Shire of Serpentine-Jarrahdale
- Local Government boundaries
- Cadastre

Land Capability (Horticulture)

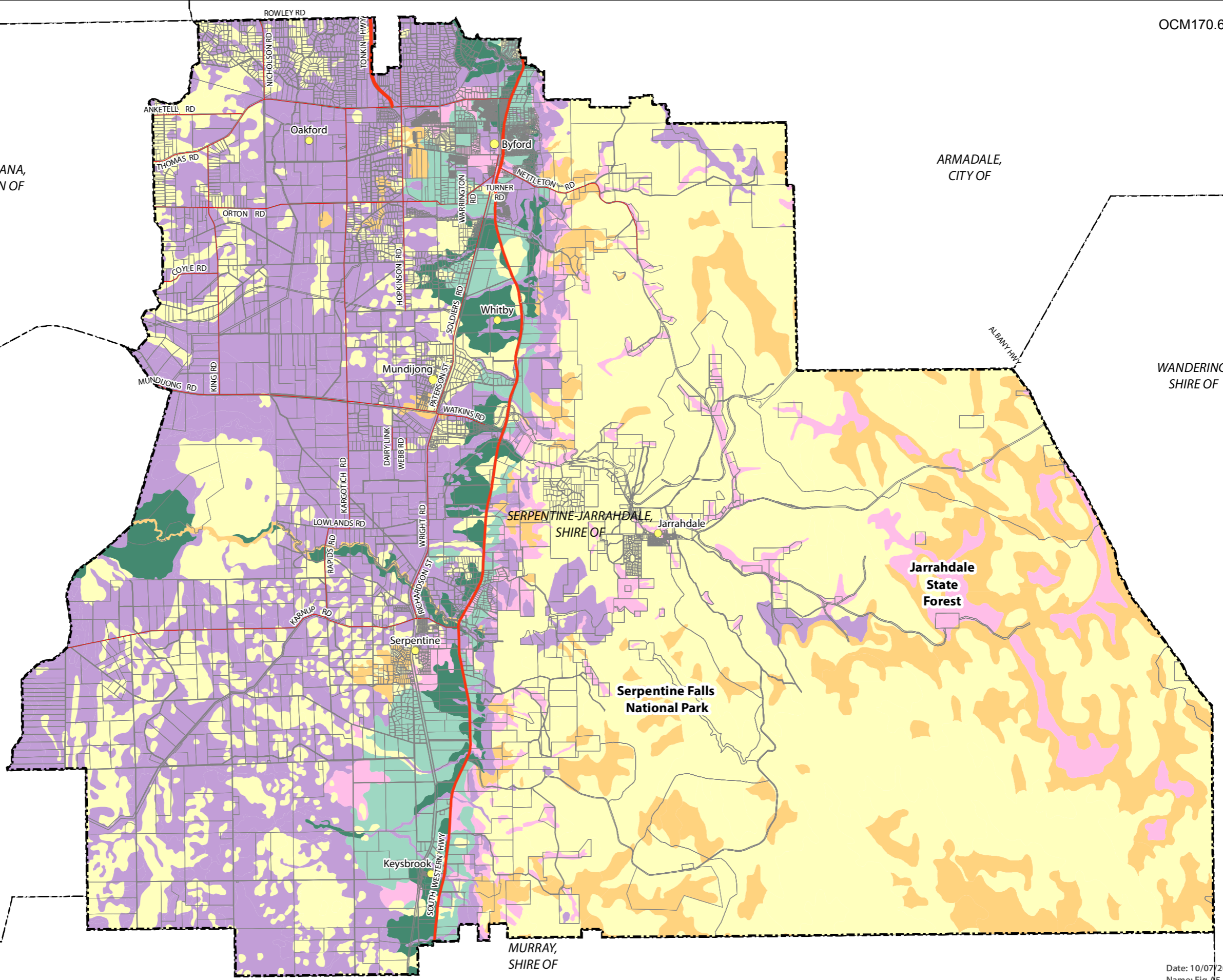
- A1: >70% Class 1 or 2
- A2: 50-70% Class 1 or 2
- B1: >70% Class 1, 2 or 3
- B2: 50-70% Class 1, 2 or 3
- C1: 50-70% Class 4 or 5
- C2: >70% Class 4 or 5

WINANA, WN OF

ARMADALE, CITY OF

WANDERING, SHIRE OF

ROCKINGHAM, CITY OF



MANDURAH, CITY OF

MURRAY, SHIRE OF

Date: 10/07/2012
Name: Fig A5_LC_Horticulture.mxd

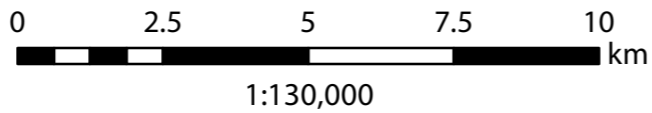
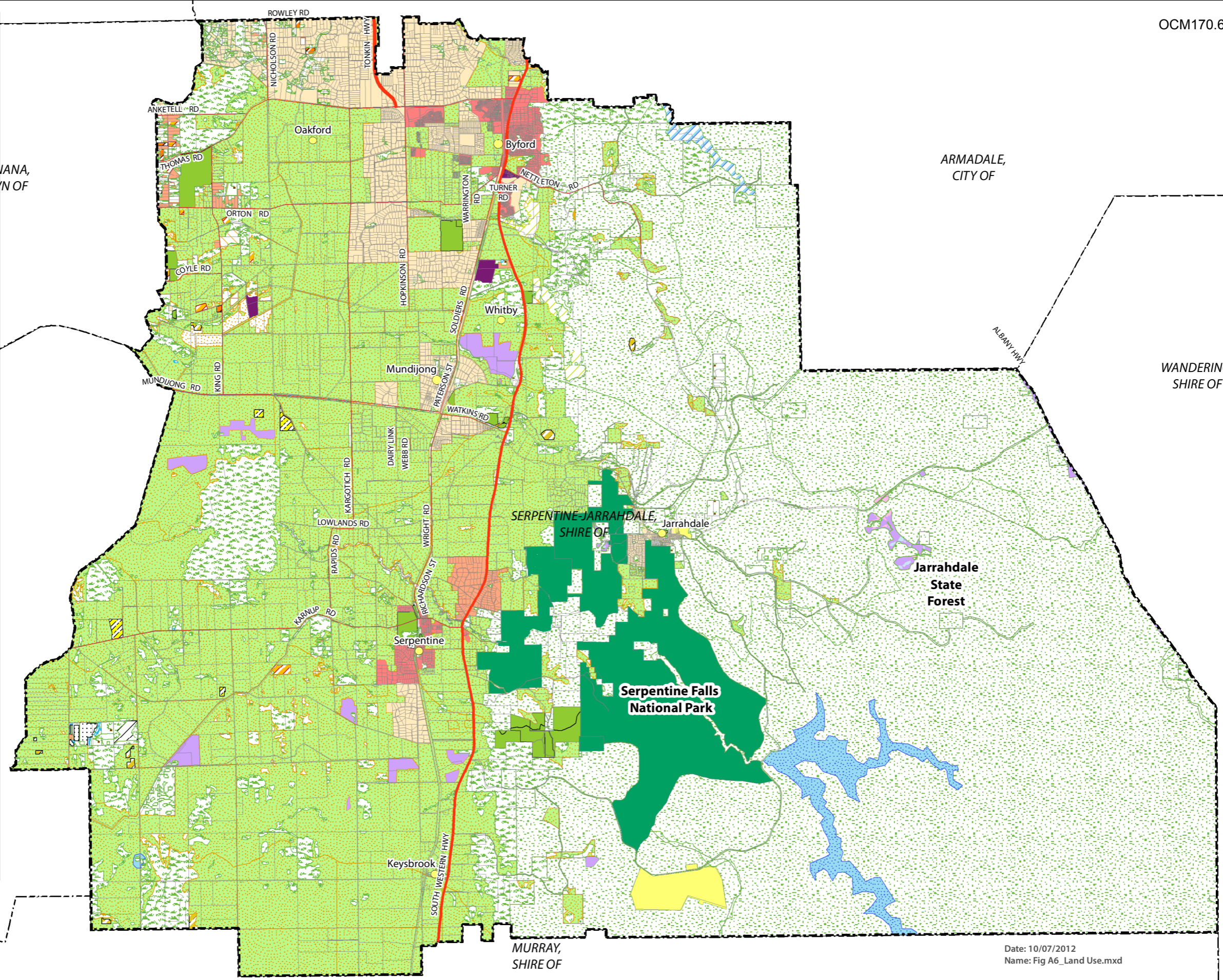


Figure A5
Land Capability - Horticulture
RURAL STRATEGY

- Legend**
- Shire of Serpentine-Jarrahdale
 - Local Government boundaries
 - Cadastre
- Land Use (2012) DAFWA**
- 1.1.1 Strict Nature Reserves
 - 1.1.3 National Park
 - 1.1.7 Other Conserved Area
 - 1.3.3 Residual Native Cover
 - 1.3.4 Rehabilitation
 - 3.1.0 Plantation Forestry
 - 3.1.1 Hardwood Production
 - 3.1.2 Softwood Production
 - 3.2.0 Grazing Modified Pastures
 - 3.3.0 Cropping
 - 3.6.0 Land in Transition
 - 4.4.0 Irrigated Perennial Horticulture
 - 4.4.1 Irrigated Tree Fruits
 - 4.5.0 Irrigated Seasonal Horticulture
 - 4.6.0 Irrigated Land in Transition
 - 5.1.0 Intensive Horticulture
 - 5.1.1 Shadehouses
 - 5.2.0 Intensive Animal Production
 - 5.2.4 Poultry Facilities
 - 5.2.6 Aquaculture - Facilities
 - 5.3.0 Manufacturing and industrial
 - 5.4.0 Residential
 - 5.4.1 Urban Residential
 - 5.4.2 Rural Residential
 - 5.4.3 Rural Living
 - 5.5.0 Services
 - 5.5.1 Commercial Services
 - 5.5.2 Public Services
 - 5.5.3 Recreation and Culture
 - 5.7.1 Airports or Aerodromes
 - 5.8.0 Mining
 - 5.8.2 Quarries
 - 6.1.0 Lake
 - 6.2.0 Reservoir / Dam
 - 6.2.1 Reservoir
 - 6.2.2 Water storage - Farm Dams



MANA,
N OF

ARMADALE,
CITY OF

WANDERING,
SHIRE OF

MANDURAH,
CITY OF

MURRAY,
SHIRE OF

Date: 10/07/2012
 Name: Fig A6_Land Use.mxd
 LAND USE DATA COURTESY OF DEPARTMENT OF AGRICULTURE AND FOOD, 2012

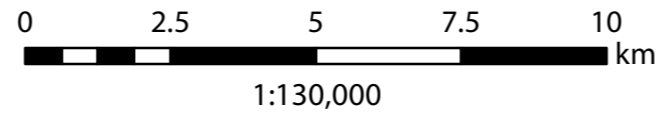





Figure A6
Land Use Audit

RURAL STRATEGY

OCM 18 December 2017
SHIRE OF SERPENTINE JARRAHDAL



Legend

-  Shire of Serpentine-Jarrahdale
-  Local Government boundaries
-  Cadastre

HIGH LEVEL OF CONSTRAINT

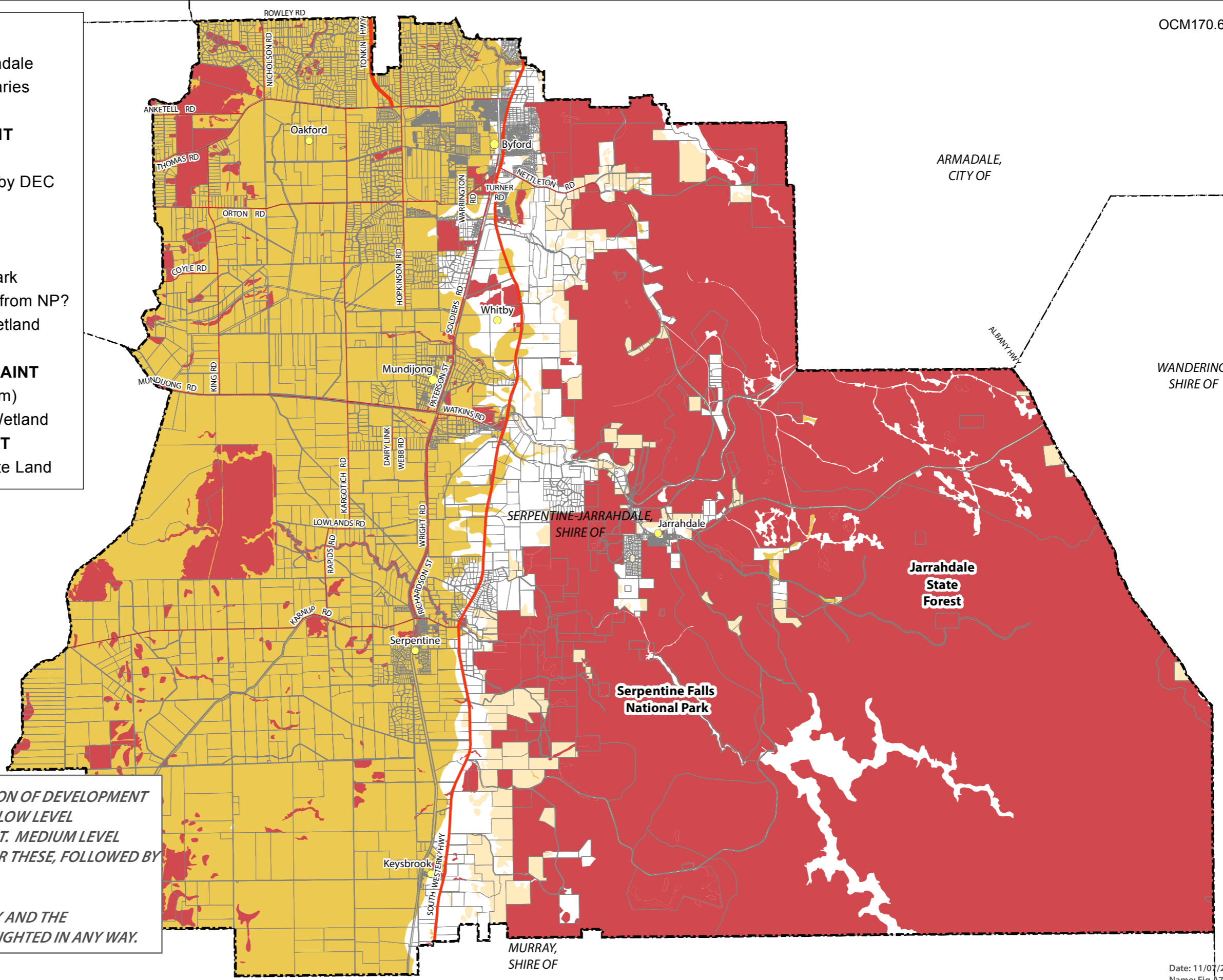
-  Bush Forever
-  Bush Forever - Protected by DEC
-  Jandakot Nature Reserve
-  Jandakot Regional Park
-  DEC - State Forest
-  Darling Range National Park
-  Darling Range - excluded from NP?
-  Conservation Category Wetland
-  ASS Soil Potential (High)

MEDIUM LEVEL OF CONSTRAINT

-  ASS Soil Potential (Medium)
-  Resource Enhancement Wetland

LOW LEVEL OF CONSTRAINT

-  Local Natural Area - Private Land



ROCKINGHAM,
CITY OF

ARMADALE,
CITY OF

WANDERING,
SHIRE OF

SERPENTINE-JARRAHDAL
SHIRE OF

Jarrahdale
State
Forest

Serpentine Falls
National Park

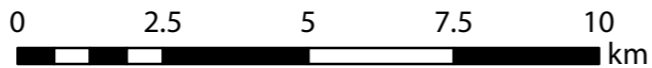
MURRAY,
SHIRE OF

THIS PLAN PROVIDES AN INDICATION OF DEVELOPMENT CONSTRAINT ACROSS THE SHIRE. LOW LEVEL CONSTRAINTS WERE MAPPED FIRST. MEDIUM LEVEL CONSTRAINTS WERE MAPPED OVER THESE, FOLLOWED BY HIGH LEVEL CONSTRAINTS.

THIS IS AN INDICATIVE GUIDE ONLY AND THE CONSTRAINTS HAVE NOT BEEN WEIGHTED IN ANY WAY.

MANDURAH,
CITY OF

Date: 11/07/2012
Name: Fig A7_Constraints Analysis.mxd















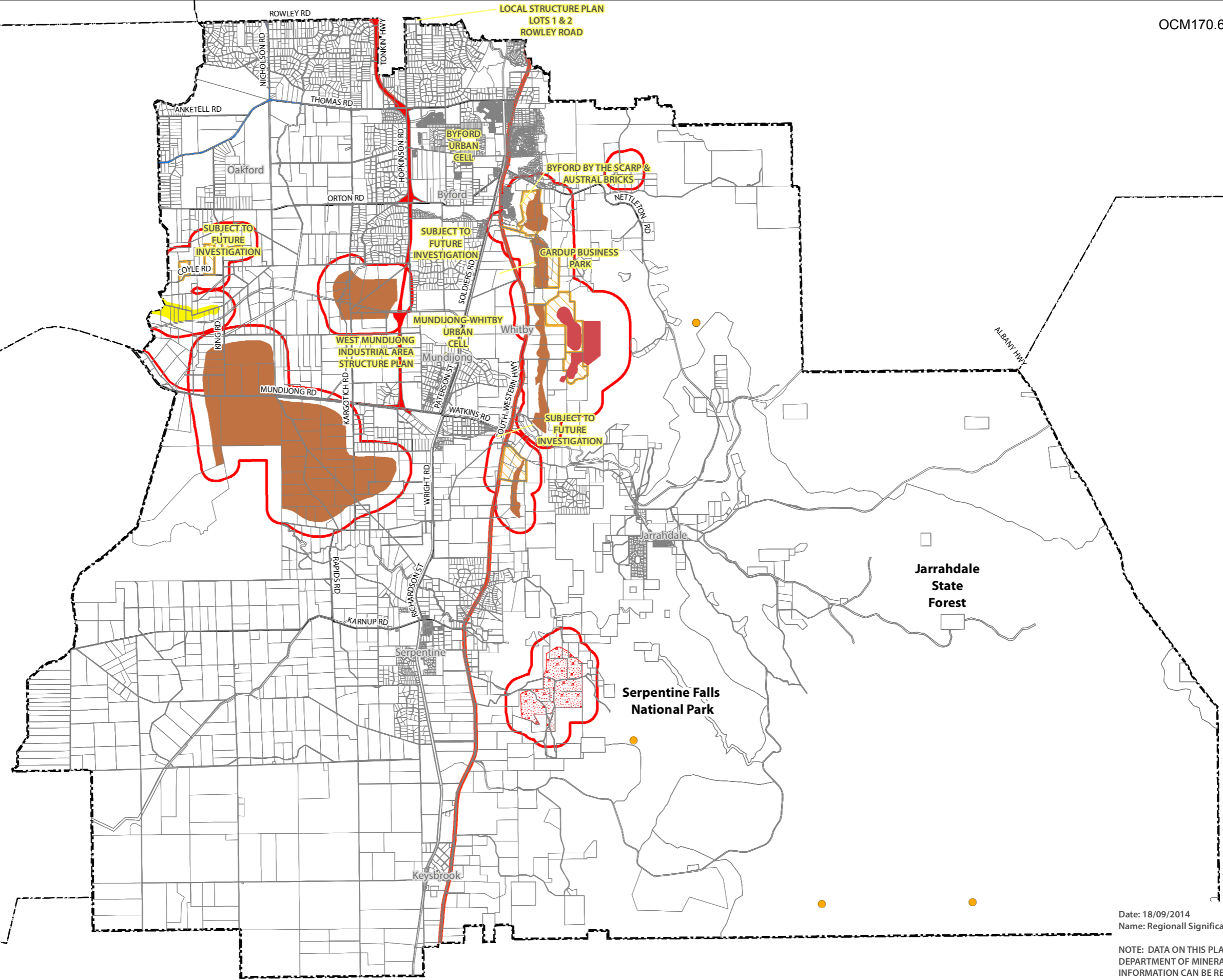
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Figure A7
Constraints Analysis
RURAL STRATEGY

Legend

-  Shire of Serpentine-Jarrahdale
-  Local Government boundaries
-  Cadastre
-  Highway
-  Main Road
-  Bauxite deposit
-  Extractive Industry Licence
-  Separation area from BRM
- Regionally Significant BRM**
- Commodity**
-  Clay
-  Gravel
-  Rock aggregate
-  Sand



Date: 18/09/2014
Name: Regionall Significant BRM.mxd

NOTE: DATA ON THIS PLAN PROVIDED BY THE DEPARTMENT OF MINERALS AND ENERGY. UPDATED INFORMATION CAN BE REQUESTED FROM THE DEPARTMENT AS REQUIRED.

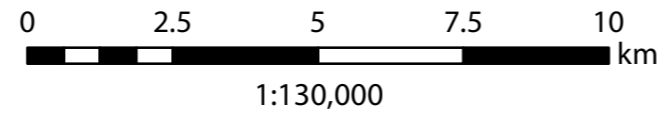







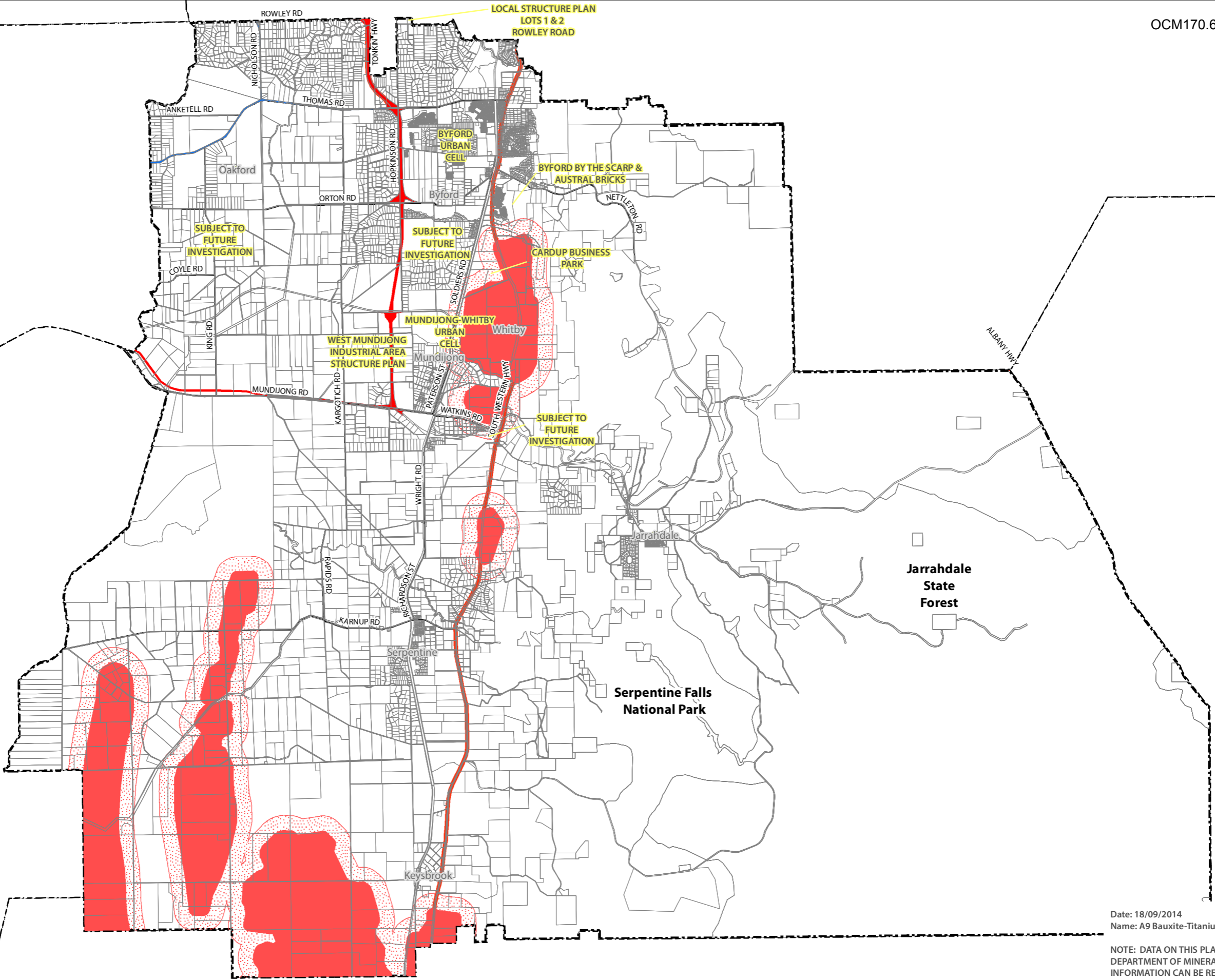


Figure A8
Regionally Significant BRM
RURAL LAND STRATEGY

Legend

-  Shire of Serpentine-Jarrahdale
-  Local Government boundaries
-  Cadastre
-  Highway
-  Main Road
-  Titanium- zircon deposit
-  500 m separation area



Date: 18/09/2014
 Name: A9 Bauxite-Titanium Deposits.mxd

NOTE: DATA ON THIS PLAN PROVIDED BY THE DEPARTMENT OF MINERALS AND ENERGY. UPDATED INFORMATION CAN BE REQUESTED FROM THE DEPARTMENT AS REQUIRED.

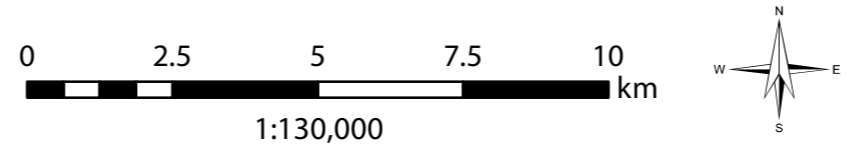


Figure A9
Titanium - Zircon Deposits
RURAL LAND STRATEGY
 OCM 18 December 2017
 SHIRE OF SERPENTINE JARRAHDAL

